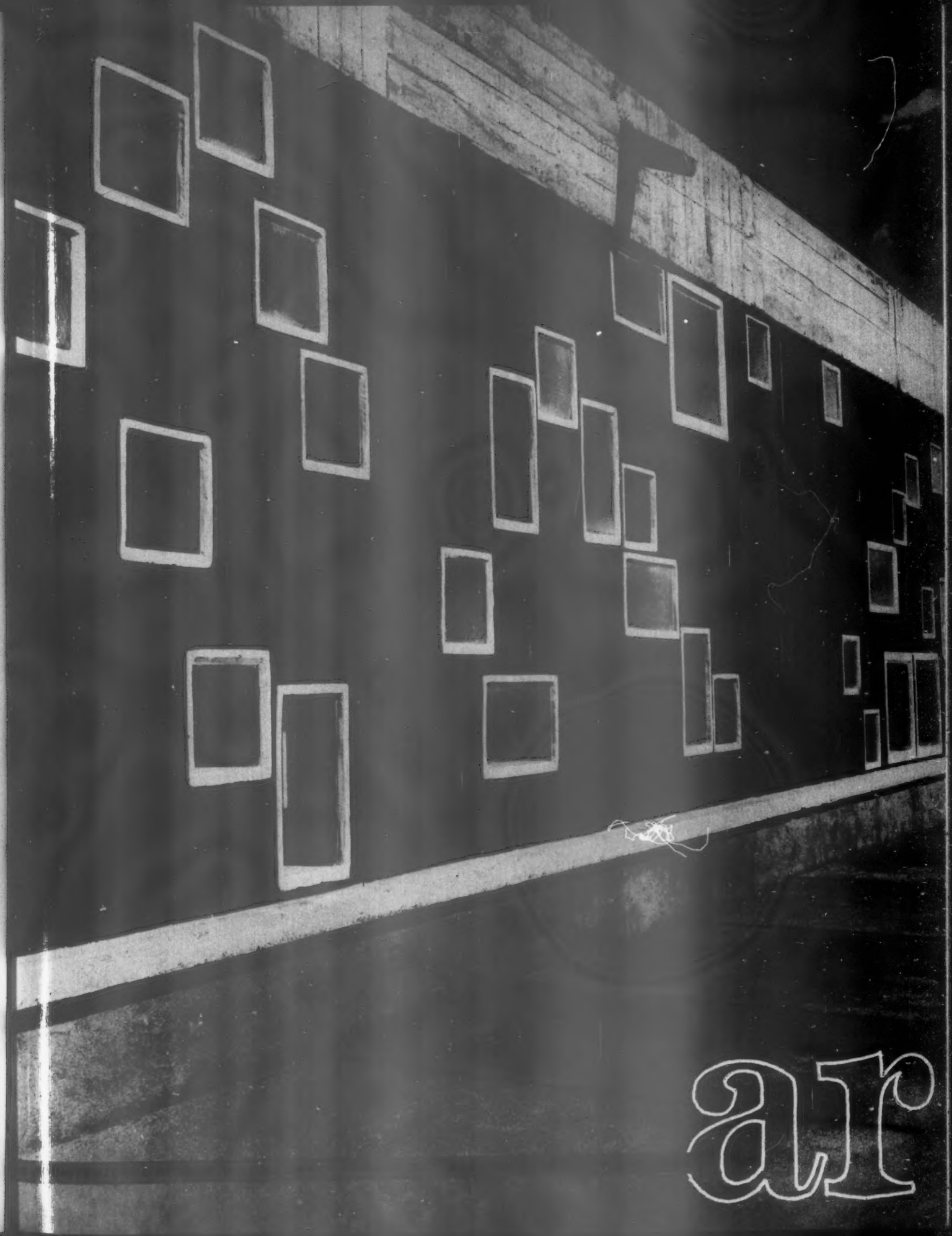
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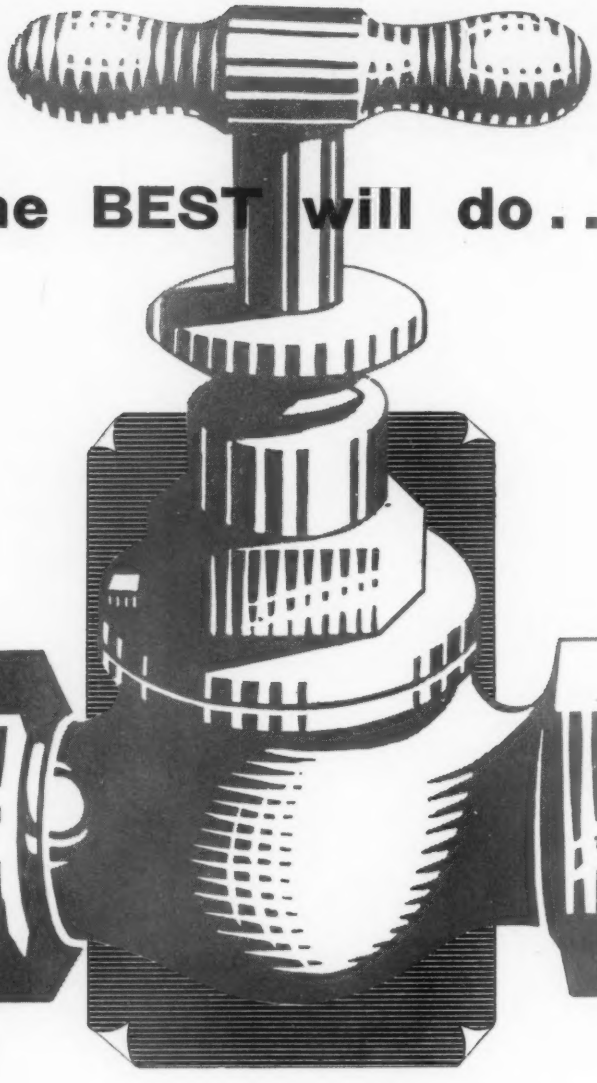

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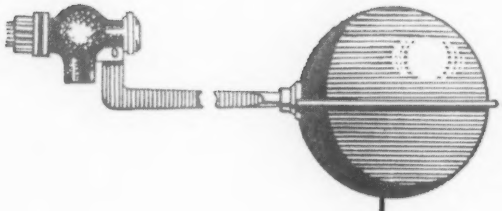

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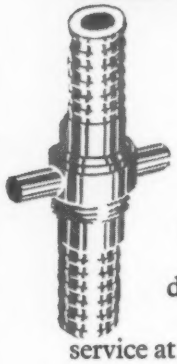

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MARGINALIA

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'We have no right to waste our energy on worn-out tackle,' wrote Le Corbusier. 'We must scrap, and re-equip.' And, of course, every true son of the Pioneers agrees with him. But as is so often the case with large and all-embracing moral imperatives, it is not as simple as all that, and a certain amount of the tackle which we have inherited from the nineteenth century has now reached a condition of marginal obsolescence which is embarrassing for all concerned. The most widespread body of sufferers from marginal obsolescence are the minor distributaries of British Railways, country branch lines which don't quite pay their way, don't quite justify their staffing and upkeep.

British Railways' normal solution to this situation is surgical—the service is amputated from the time-table. But this, of course, merely leaves the static equipment of the branch—lines, bridges, stations, etc.—rotting in Subtopian neglect, and a big gap in the social life, employment pattern and transport grid of a rural district. Often, however, the exercise of some administrative imagination would be sufficient to lift an ailing line into a condition of marginal prosperity, and it is to promote action of this kind that the Society for the Reinvigoration of Unremunerative Branch Lines in the United Kingdom (SRUBLUK) has been formed.

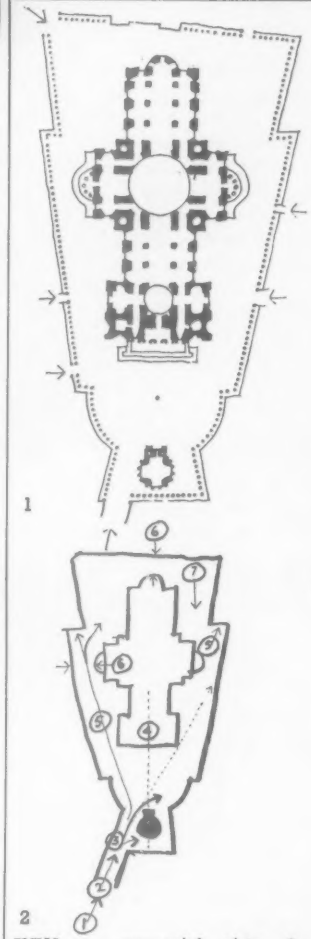
Unlike many organizations of the kind, SRUBLUK does recognize that the first task is to prove that such lines can be made to pay. This is a great advance on the Titfield-Thunderboltery and Quixotism which has rendered other organizations of this sort suspect in the past, and promises a sane and progressive approach which, astutely pursued and widely supported, could render a useful service to the mechanical equipment of rural areas and keep busy large-scale capital investments like bridges and embankments which have another century or more of use in them. Further information on SRUBLUK may be had from the Secretary at 156, Strand, London, W.C.2.

Fernand Leger

Fernand Leger, who died in August at the age of 74, was more closely involved with the Modern Movement in Architecture than any other painter of the School of Paris. Associated with the Ecole de Puteaux (the more 'intellectual' wing of Cubism) before the 1914 War, he was quite as interested in geometry as Juan Gris, quite as interested in machinery as Marcel Duchamp. The war provided him with an experience of solidarity with the French people, and of machinery at first hand. 'J'ai découvert là le peuple français. Dans le même temps, j'étais ébloui par une culasse de canon de 75 ouverte en

a plan for St. Paul's precinct.

Gordon Cullen's proposals for the rebuilding of the area around St. Paul's were described at length in the ARCHITECTS' JOURNAL for 18th August. Here they are set out in essence, with one example chosen out of the several Mr. Cullen illustrated in his historical survey—the Wren (some say Hawksmoor) piazza plan, which has much in common with his own.



1

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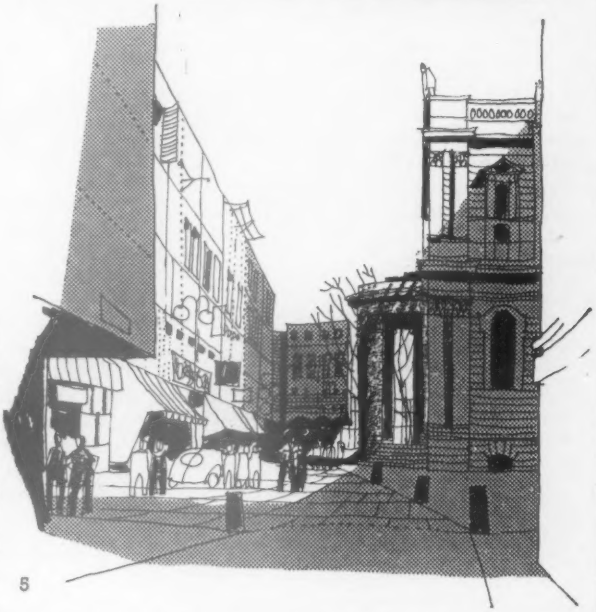
KEY: 1, non-axial vista. 2, sense of uniformity established. 3, development: north wall continues, south wall stops and reveals cylinder. The scene is progressively unfolded round the drum. 4, establishment of axis. 5, closure. Projection placed behind portico thus suggesting continuity. 6, narrows. Portico and east end used to articulate spaces not as focal points for vistas. 7, false perspective accentuates size of precinct.

3



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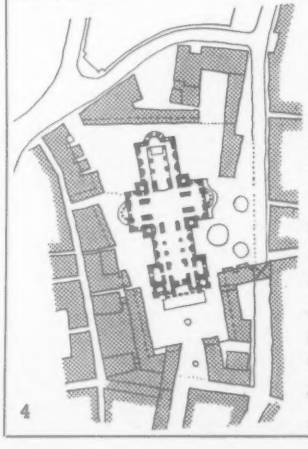


4

Wren's plan for St. Paul's precinct, or piazza, 1. Note the absence of axial vistas and the intimacy of scale. As compared with his well-known plan for the City of London this scheme marks a counter-resolution in that the fixed viewpoint system of the Italian renaissance is abandoned in favour of serial vision—the unfolding of views as one moves through the City. The diagram, 2, shows how this operates inside the precinct. In 3, a view along the north flank of the building, we see how spaces are articulated one from the other by the device of closure.

Gordon Cullen's plan for St. Paul's precinct, 4, seeks to embody this same visual drama in a new setting for the building. To bring the precinct to life, variety of function is added to spatial fluctuation. 5, again the north flank of the building, shows a busy shopping area which lies between the formal forecourt to the west and a tree-planted garden to the east.

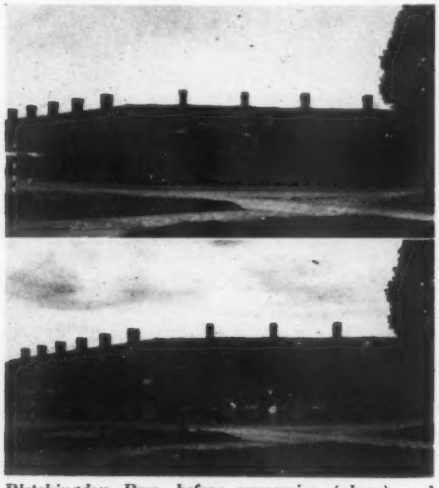
plein soleil, magie de lumiére sur le métal blanc' (as he later wrote) and he emerged from the war with a vision of common mass-produced objects as exemplars of the laws of form—a vision which was to make him a sympathetic collaborator of Le Corbusier and Ozenfant.

These two, on the threshold of *La Peinture Puriste*, he met immediately after the war through the shortlived revival of 'La Section d'Or.' They were fellow exhibitors at Leonce Rosenberg's, and Leger was one of the very few artists allowed to exhibit among the works of non-art in the *Pavillon de l'Esprit Nouveau* at the exhibition of 1925. This manifesto of the Corbusian ideal of the machine for living in, admitted paintings on the same basis as it admitted anything else—on purely functional grounds. Works of art being defined as *Dispositifs pour Emouvoir*, only those designed to give maximum reliable performance were acceptable—a classification which admitted Lipchitz, Gris and Leger's formal arrangements of objects of Common Beauty.

He came away from this experience with a definite bent for mural decoration, and a body of ideas about the effect of colour on space. His subsequent evolution of a vision of a simplified humanity—noble savages of an industrial epoch with their bicycles and their wholesome girl friends—has kept pace with a not dissimilar humanization of the work of Le Corbusier, though there has been very little in the way of further formal collaboration. He has been responsible for the mosaic façade of the Chapel at Assy, for the mural panels in the UN General Assembly, and has contributed works to the remarkable campus buildings at Caracas. But his real monument is probably the massive, simplified plasticity, and strong, positive colour of Le Corbusier's church at Ronchamp.

'Unfit for Repair'

Among this year's housing medals was an award to Thomas Rayson for his conversion of The Row at Bletchingdon, Oxfordshire. This is a pleasure, especially welcome to REVIEW readers, for this Row was to have been demolished by the Ploughley RDC—whose work was illustrated on page 384 of the 'Outrage' issue—and was only saved after a public enquiry, with the help of a grant from the Pilgrim Trust. Now that it has been proved that such a conversion can be achieved without magic, could the Council follow the lead of the Oxfordshire Housing Association and give first aid to the similar but less well-known Row at Bucknell before it is too late?



Bletchingdon Row, before conversion (above) and after (below).

More Light on Adam

The slow extension of our knowledge of the intimate workings of the Adam Brothers' office, of their personal relationships, the formation of their office style, has been taken a stage further by the discovery of over a hundred letters written by Robert Adam in the course of his Grand Tour of Italy, together with a notebook which seems to have been a private Debrett of useful contacts, significantly entitled *Acquaintances made during my travels with people at different places. . . .* These letters have been published in an intriguing article by John Fleming in the current number (1004) of *The Cornhill*, and cover the whole of his Continental excursion except (maddeningly enough) the vital first months *after* his meeting with Clérisseau, though the meeting itself, in Florence, is recorded. Even so, there is enough Clérisseau material here, including some rather shady manœuvring to keep his services without letting him steal Robert Adam's thunder, to reopen the problem of Adam-Clérisseau priority (ARCHITECTURAL REVIEW, April, 1955) and carry us a little deeper into the problem of the creation of Neo-Classicism in architecture.

Mr. Fleming's presentation of this material covers more than just the Clérisseau problem, of course, and records a remarkable change of personality, from a tuft-hunting young sprig in black velvet to a serious student of Roman remains, in green silk and ungartered stockings, working at his drawing board or notebooks from seven in the morning till six at night. It is an invaluable insight into the making of a genius of design, for which Mr. Fleming is to be congratulated on the discovery, and *The Cornhill* for the publication, for this kind of historical study is an adventurous break from that magazine's normal diet of travellers' tales and stories of *liaisons difficiles*.

Memorial Exhibition

An exhibition of the work of the late McKnight Kauffer is at present being held at the Victoria & Albert Museum. It was opened last month by Mr. T. S. Eliot and will stay open until the 27th of this month.

Lectures this season

The following lectures and courses are being given in London during the coming months. London University extension courses (sessional): *Mediaeval Architecture and Decoration*, at the National Gallery, by A. Clifton-Taylor; *20th Century Architecture*, at Richmond Institute of Further Education, by R. Banham; *English Architecture*, at Goldsmith's College, New Cross, by A. W. Mauduit; *English Architecture*, at Leighton House, Kensington, by R. Furneaux Jordan; full details from Department of Extra-Mural Studies, Senate House, W.C.1. Free evening lectures, V and A Museum: *Early Victorian Taste*, by Winslow Ames, November 2; *The Rock Churches & Mediaeval Art of Ethiopia*, by Beatrice Playne, November 9; *Bavarian Castles*, by Prince Franz zu Wittgenstein, November 14; the *Chinese Taste in England*, by John Lowe, December 14. Free lectures, RIBA: *Brompton, London's Art Quarter*, by H. S. Goddhart-Rendel, December 6; *The Motorway and its Environment*, by Sir Owen Williams, January 10, 1956; *Ritual and Architecture in Megalithic Monuments*, by Stuart Piggott, March 6; *Colour in Buildings*, by D. L. Medd and H. L. Gloag, April 17; *Modern Church Design*, by Basil Spence, June 19. Chadwick Public Lecture: *The Centenary of London's Main Drainage System*, by J. Rawlinson, 90, Buckingham Palace Road, November 17.

Architect of the Assembly Hall at Rangoon. Raglan Squire trained at Cambridge School of Architecture for one year, left as he thought there was too little emphasis on the practical side of building, and spent the next year with Holloway Bros., working through their joinery works and stone masons' yard, and gaining site experience on such buildings as the Bank of England, Cumberland Hotel, etc.; considers this one of the

best things he ever did. Qualified at 25, having gained sufficient practical experience to start his own practice. During the war served in the REs and returned to become a partner in Arcon, working mostly on prefabricated buildings. Parted company with Arcon in 1948, and since then has been slowly building up the firm of Raglan Squire and Partners.

ACKNOWLEDGMENTS

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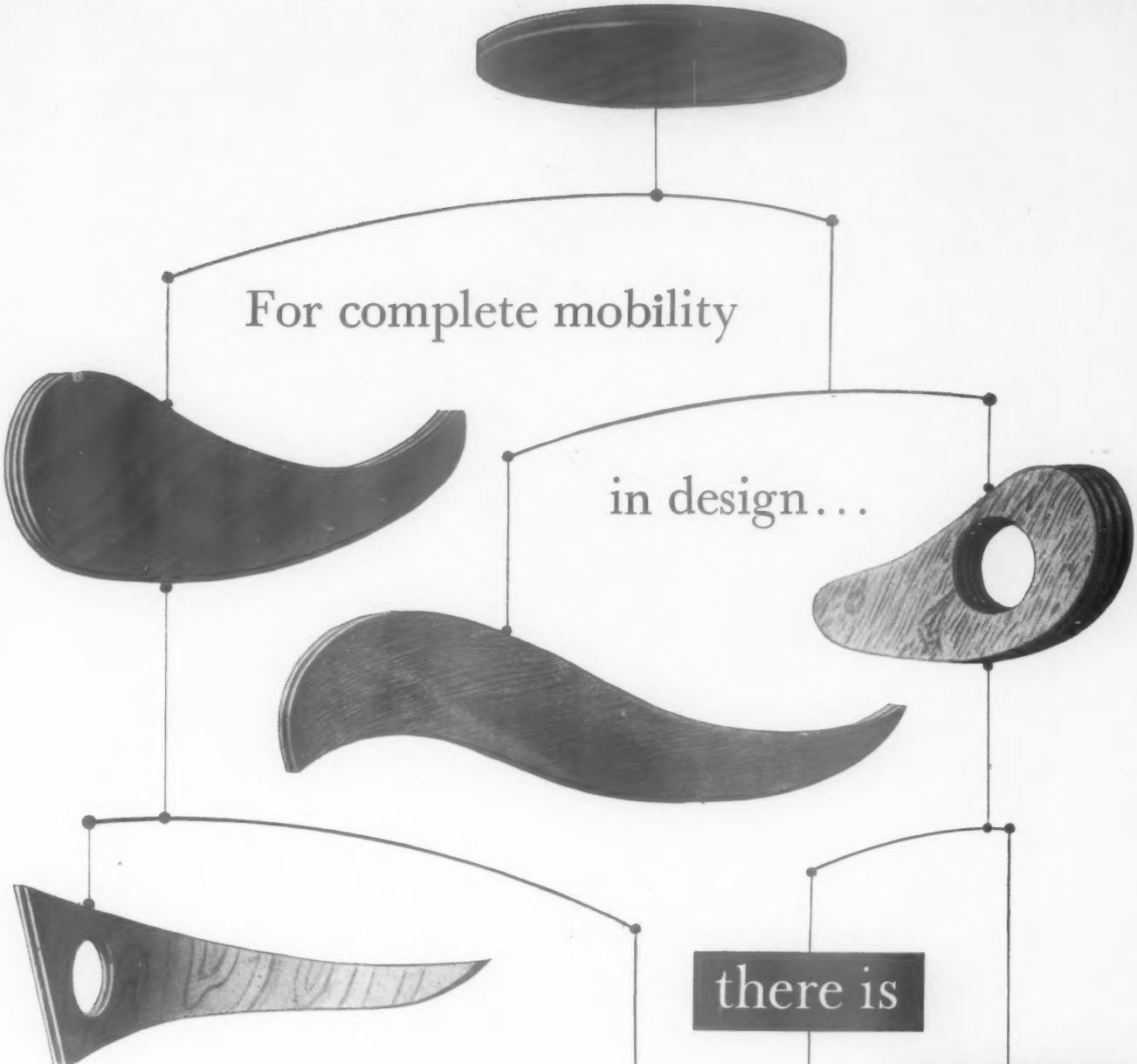

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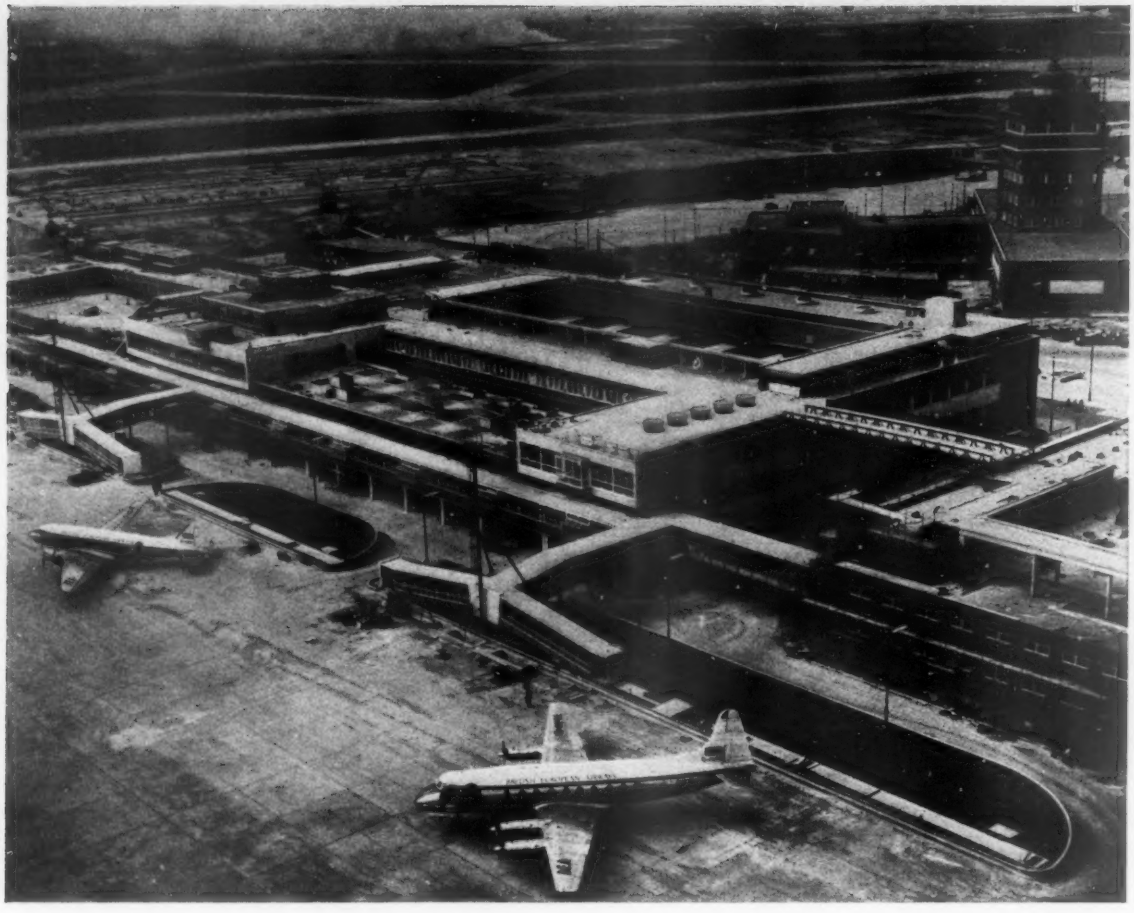

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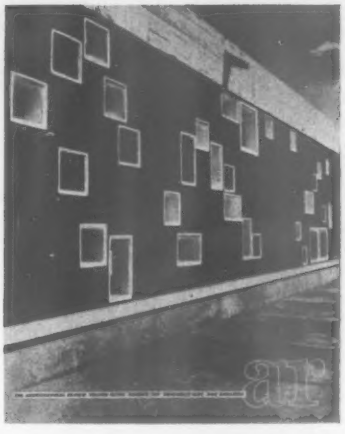

This month's cover is a view along the side of the crèche on the roof of Le Corbusier's recently-completed *Unité* at Nantes-Rezé. The black-painted wall, pierced by a random pattern of windows filled with glass of different textures, colours and degrees of obscurement, is another earnest of the Master's increasing interest in romantic surfaces to which James Stirling drew attention in THE ARCHITECTURAL REVIEW for September, 1955. But this wall also produces a characteristic optical glitter which contrasts forcibly with the matt, regularly-gridded surface of the block as a whole and may be, as is suggested on pp. 327 to 329, a variant of Le Corbusier's classic procedure of contrasting the roof structures against the rest of the block by purely geometrical means (impossible here for functional reasons).

281 **Marginalia**

284 **Frontispiece**

285 **Flaxman Bi-centenary** *by F.J.B. Watson* The English played a far greater part in the rise of Neo-Classicism than is generally realized for, in spite of the activities of the Comte de Caylus in Paris, the first works of classicism according to the prescriptions of Winckelmann were produced in Rome in the seventeen-fifties and sixties, either by English artists or at the instance of English patrons. The most highly regarded of the English Neo-Classicists was of a younger generation—John Flaxman, who did not reach Rome until 1789, yet rapidly acquired a reputation greater than that of any other European Neo-Classic. While his English reputation, and his standing in art-history, will always depend on his work in sculpture, and for Wedgwoods, his great reputation among his Continental contemporaries depended on his illustrations to Homer and Aeschylus. The resounding success of these engravings is to be traced, Mr. Watson suggests, to their place in the development of the Neo-Classical vision. With David's *Oath of the Horatians* this mode of vision had been lifted out of the naïvety and sentimentality of its first phase, and elevated to a new level of austerity, but this purification of the mode of vision could not be halted even at this stage, and as Mr. Watson traces the ensuing developments, a desire to purge the pictorial arts of even colour and chiaroscuro appears. The Homer illustrations, published in 1793, appeared at exactly the right moment to fulfil and consummate this development, exhibiting not only the 'true principles of composition' as learnt from ancient sarcophagi, but also 'the simple line of the antique', and thus summed up, for Flaxman's generation, exactly what classical art meant for them.

290 **Hotel in Istanbul:** *Architects, Skidmore, Owings and Merrill, in association with Sedad H. Eldem*

297 **Sullivan and Wright** *by Grant Manson* Because of its importance in the history of architecture, the association between Louis Sullivan and Frank Lloyd Wright has been much discussed and much studied, but it becomes very insubstantial at close range. When Wright joined Sullivan in 1887, the *Lieber Meister* was already a legend and a cult around whom disciples gathered. But he had only been practising his characteristic style for eighteen months or so, following the impact of H. H. Richardson's work, and was in fact, still only thirty-one. This comparative newness of Sullivan to his position of eminence may go some way to account for Wright's sudden rise in the office hierarchy, and the acquisition of a room of his own to work in when the office moved into the Auditorium Building in 1889. In addition there is evidence that Wright did more and more of the work on private houses, which did not interest Sullivan, even before the Charnley House of 1891, an admitted work of Wright and the building which marks his début as an independent genius. Under such circumstances, the master-pupil relationship seems unlikely to have been of the usual order, for there is also evidence of a back-influence from the house-designer on the designer of public buildings, and between 1891 and 1894 there persistently appear in Sullivan's larger commissions usages and details which contradict the general tendency of the design and seem much more apt to the world of domestic architecture. When Wright left the office, these deviations ceased, and the Guaranty building of 1895 resumes the natural line of Sullivan's pioneering development. Professionally speaking, Wright and Sullivan were not a team, but a collision between two self-confessed Celts.

301 **College at Pershore:** *Architects, Richard Sheppard and Partners*

304 **Dereliction** *by Kenneth Browne* There are vast areas of desolation and industrial blight in England in spite of the present pressure on land. These areas, still growing, represent a wastage which it is nobody's business to prevent, and ludicrous situations arise where, for instance, a factory cannot afford to dump its waste in a derelict hole next door, but must go some miles to dump on cheaper, virgin land. Among the rare instances of authorities trying to do anything about this tragic wastage, that of Lancashire is particularly praiseworthy. The Local Planning Authority encourages the reclamation of land for housing, schools and new factories, and by organizing co-ordinated tipping schemes is ensuring the reclamation of some selected areas where excavations and subsidence have led to flooding. One such area on the outskirts of Manchester will thus become riverside parkland (its original condition) in about twenty years, and to demonstrate the possibilities of this method and the manner in which it can exploit the existing features of blighted areas, the authors have selected an area at Leigh, near Wigan, and shown how it could be converted into a fine lakeside park with an arresting skyline, in an area whose normal condition is one of unrelieved flatness.

312 **Laboratories at Rangoon:** *Architects, James Cubitt and Partners*

318 **Assembly Hall at Rangoon:** *Architects, Raglan Squire and Partners*

322 **Current Architecture**

Miscellany

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333 **London Airport Passenger Handling Building:** *Architect, Frederick Gibberd*

340 **Design Review**

342 **Techniques: Building Exhibition** *by John Voelcker*

348 **The Industry** 348 **Contractors, etc.**

Authors *F.J.B. Watson*, assistant director of the Wallace Collection and assistant surveyor of the Queen's works of art, was born in 1907 and educated at Cambridge. He has published a book, 'Canaletto', and his catalogue of the French furniture at the Wallace Collection is about to appear. *Grant Manson*, a past contributor to the AR (June 1953), has lately become Vice-Dean of the School of Fine Arts, University of Pennsylvania.

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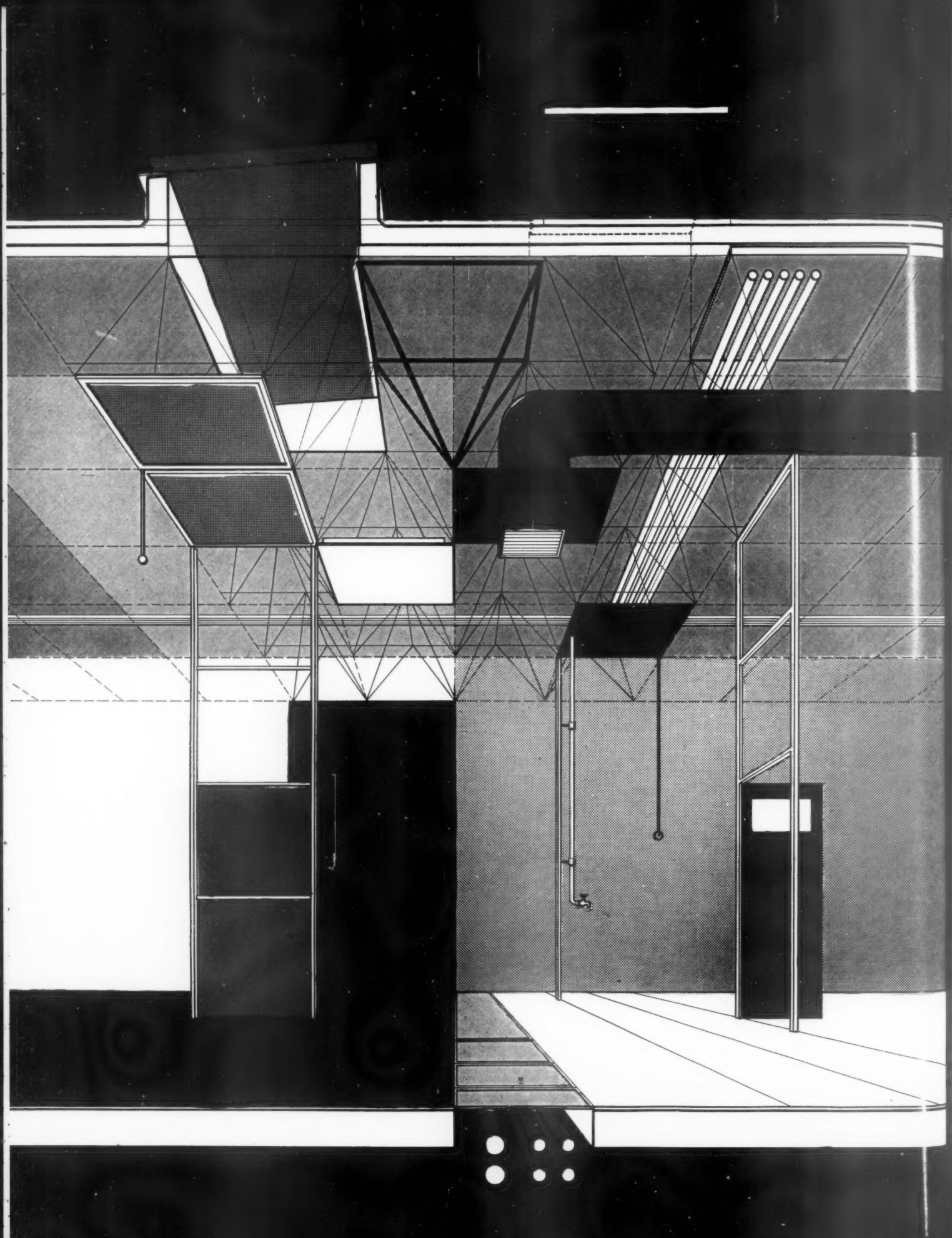
FIVE SHILLINGS



The geometrical elegance attainable in a rigorous evaluation of the structural requirements of a complex functional programme is admirably demonstrated by the new buildings for Burma Pharmaceutical Industry, designed by James Cubitt and Partners, and shown opposite in a diagrammatic capriccio by Gordon Cullen. The basic unit is the inverted pyramid, and the repetition of such units, their lower points connected by tension members, gives a space-frame deep enough to provide thermal insulation and ample room for service runs. On its upper and lower surfaces, this space frame presents a square grid on a four foot module, on which roofing may be laid, and to which ceiling panels can be clipped, but—in the nature of the geometry of the frame—a unit square of the lower surface cannot coincide on plan with one on the upper surface, so that daylighting is automatically indirect. The lower bosses of the pyramids are also drilled to support partition units, service drops and suspended machinery as shown, but the coloured plans in the background are not to be taken as actual walls. This ingenious design is fully illustrated and described on pp. 312-317.

F. J. B. Watson

FLAXMAN

THE BI-CENTENARY OF AN ENGLISH NEO-CLASSICIST

English artists and patrons played a far larger part than is generally recognized in the revolution in European taste which took place round about 1760 and which brought about the classic revival. Neither here nor abroad, for example (except for the lone voice of Fiske Kimball crying in the wilderness), has Robert Adam been given the credit due to him for anticipating by several years almost every innovation of the Louis XVI style in furniture design and interior decoration. It is true that in Paris, even before the middle of the century, that "*antiquaire acariâtre et brusque*" the Comte de Caylus had been urging French artists to abandon the gallant themes beloved by Boucher and his emulators in favour of more truly classical subjects. His *Tableaux d'Homère et de Virgile* (1756) was designed to provide such a new series of subjects for artists just as his *Receuil d'antiquités égyptiennes, étrusques, grecques et romaines* (seven volumes, 1752-1757) was intended to provide them with a fresh repertory of decorative models. But Caylus's propaganda campaign only began to bear fruit when his especial *protégé*, the painter Vien, exhibited his *Jeune Corinthienne ornant une vase de Bronze avec guirlandes de Fleurs* at the Salon of 1761 and followed it two years later with his much more famous *Marchande d'Amours*. But a faded aroma of rococo sensuality and prettiness clings to both paintings in spite of the fact that the latter is inspired directly from a famous Pompeian fresco.

It was at Rome, the capital of the ancient world and the centre from which the neo-classic movement really spread through Europe, that the first truly classical paintings *à la* Winckelmann were created; paintings which anticipate David's *Oath of the Horatii* by more than twenty years. And in the forefront of this *avant-garde* movement was a group of young English artists led by Gavin Hamilton and Benjamin West. Between 1758 (when Lord Northampton seems to have commissioned a painting of *Andromache weeping over the body of Hector*) and 1775 Hamilton executed a whole series of paintings of subjects drawn from the Iliad or from Roman history. A few years later with his *Pylades and Orestes*, West embarked on the first of a similar group of paintings. Even Mengs, generally thought

of as the high priest of neo-classic painting, only produced his first work with a purely classical subject, the *Augustus and Cleopatra*, in 1761 and even then the commission came from an English patron, Sir Richard Colt Hoare of Stourhead, who selected the subject and laid down the programme of the picture himself with the greatest care. These English works awoke the liveliest interest in Rome and evoked enthusiastic praise from the most learned protagonists of classical art such as Winckelmann and Bottari. In these paintings there is none of the sentimental moralizing and rococo prettiness of Vien's far more celebrated works. Their composition was based on the principles of design of classical bas-reliefs; great care was taken to get details of costume and settings archaeologically accurate. If to us they seem dry and empty, to their contemporaries they appeared, in words William Beckford was to use a few years later, "to breathe the true spirit of Corinth and Rome." Their influence was widespread, for Cunego's engravings after them immediately found a ready market throughout Europe. As an instance of the impression they must have made and continued to make on contemporary artists of the first rank, it is worth comparing Hamilton's *Andromache weeping over the body of Hector* of 1762 with David's painting of the same subject. The French painter has taken the figure of the dead Hector direct and quite unchanged from the engraving after Hamilton's picture painted exactly twenty-one years before.[1]

It is not, of course, to be contended that either Gavin Hamilton or Benjamin West is a great artist, *sub specie aeternitatis*. When Hamilton's rare surviving canvases are found, dirty, darkened, sagging loosely on the stretchers, and forgotten, banished to the back staircase of some great English country house, it is very apparent that their present day interest is purely archaeological; and few visitors to Kensington Palace feel drawn to linger before West's *Regulus returning to Carthage* (1769) or his *Wife of Arminius brought captive before Regulus* (1772). Both artists were, however, catalytic agents who played a key role in bringing about a change of taste which affected the art of every European country profoundly. If they are all but forgotten today in their native country, they are even less remembered elsewhere. If any figurative artist is widely thought of as the English representative of neo-classicism, it is neither of these but John Flaxman who was only 7 years old when Hamilton was creating a sensation in Rome with his *Achilles dragging the body of Hector round the walls of Troy* and who lived into the era when Turner and Constable, Bonnington and Delacroix had already firmly laid the foundations of nineteenth century romantic painting.

[1] On the influence of English painting on the French neo-classical style see J. Locquin: *Le Retour à l'Antique dans l'Ecole Anglaise et l'Ecole Française avant David* (Le Renaissance de l'Art Français et des Industries de Luxe, 1922, p. 278ff.). Since this article was written Professor E. K. Waterhouse's Henriette Hertz lecture for 1954, *The British Contribution to the Neo-Classical Style in Painting*, has been published and adds very materially to Locquin's pioneer work.

The neo-classic style was well established by the time Flaxman began to develop as an artist. When, as a boy, he received his first commission, it was for a group of drawings of classical themes, and the subjects of many of his earliest exhibits at the Free Society of Artists exhibitions had already been chosen from classical history when in 1775 he first began to work for Josiah Wedgwood.[2] In undertaking work for the Etruria factory, he found himself in the employ of a man who was absolutely obsessed by neo-classic taste. At first Flaxman was required to model small-scale reliefs for application to pottery, often based on classical prototypes such as the well-known *Apotheosis of Homer* (after an antique relief now in the Colonna collection), or the more sentimentalized classical designs of contemporary artists such as Cipriani's *Sacrifice to Hymen* or Clodion's celebrated *Wine* and *Water* vases. But although his work for Wedgwood may have proved an excellent discipline, it provided little scope to develop his own artistic personality.

[2] Flaxman was brought to Wedgwood's favourable attention a good deal earlier than this. In a letter to Bentley dated September 7, 1771, he writes: 'Mr. Freeman of Schute Lodge in Wilts . . . is a great admirer of young Flaxman and has advised his Father to send him to Rome which he has promised to do. Mr. Freeman says he knows young Flaxman is a Coxcomb, but does not think a bit the worse of him for it *or the less likely to be a great Artist.*' (*Letters of Joseph Wedgwood* (privately printed 1903), Vol. I, pp. 427–8.)

1, *Gavin Hamilton*, Andromache bewailing Hector, *engraved by Cunego* (*detail*).

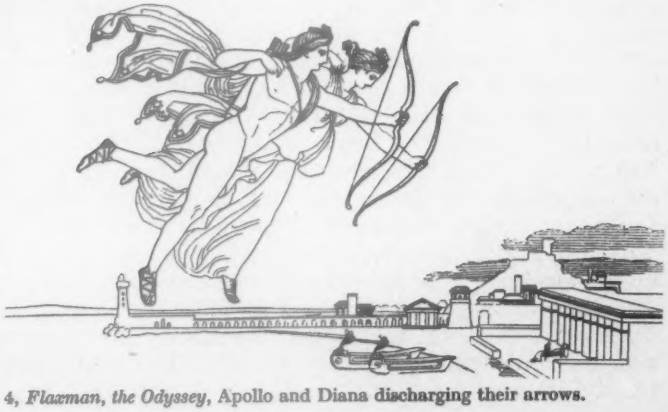
2, *David*, La Douleur d'Andromaque (*detail*).

In these early years, Nollekens, who did not like Flaxman, complained that he was 'always talking of the simple line of the antique,' adding 'why, he has never been at Rome; he has never been over the Alps, he has never been up at the top of Mount Vesuvius where I have washed my hands in the clouds; what can he know about the matter?' Thomas Banks, to whom these querulous remarks were addressed, replied, 'Well, well, we shall see; he will be going to Rome one of these days.' The long promised opportunity for this came relatively late in Flaxman's life, in 1789, when, with the encouragement of Romney (whose significance as a neo-classic artist has been almost totally overshadowed by his fame as a portrait painter) and the assistance of Wedgwood, he set off for Italy. Flaxman took what this turn of fortune offered with both hands, throwing himself with enthusiasm into the study of classical antiquity and to a lesser degree of early Italian painting and the work of his contemporaries in Rome. His letters to Romney show the passionate enthusiasm with which he was studying buildings, sculpture, Etruscan vases, Roman sarcophagi and all the debris of the Ancient World. To help maintain himself he was supervising a group of artists who were reducing and adapting models from the antique for the Etruria factory, and at the same time executing various commissions for classicizing sculpture of his own, commissions received from his countrymen visiting Rome on the Grand Tour. Amongst these last, the most important was the commission from the Earl-Bishop of Bristol-Derry to execute the huge marble group of *The Fury of Athemas*. The unhappy history of this work is well known, though if it brought Flaxman much loss and unhappiness it at least caused him to prolong his stay in Rome from the two years originally projected to seven, and thus put him in the way of the commission which earned him a European reputation.[3]

3, *Flaxman, the Iliad*, Vulcan and Chares receiving Thetis.

Sometime about 1792 he was asked by a Mrs. Hare-Naylor (grandmother of Augustus Hare, the well-known author of *Walks in Rome* and numerous other favourite travel guides of the Victorian age) to make a series of drawings illustrating the *Iliad* and the *Odyssey*. These outline drawings were engraved by Piroli and issued in Rome in 1793; two years later they were re-issued in London with the plates of the *Odyssey* re-engraved by Blake to replace the original set lost at sea. Success was immediate, not only in England but also elsewhere. A French edition quickly followed (or may even have preceded) the London edition. Meanwhile Flaxman had received a further commission from the Dowager Lady Spencer for thirty-one illustrations to

[3] It is worth remembering that in fact the Earl-Bishop kept faithfully to his part of the bargain, paying in full the price demanded which Flaxman, in the excitement of receiving so important a commission, had grossly underestimated.



4, *Flaxman, the Odyssey*, Apollo and Diana discharging their arrows.

the tragedies of *Aeschylus* which were also engraved by Piroli and issued in Rome and London almost simultaneously. A German edition of the *Aeschylus* appeared in 1802 and was followed by the *Odyssey* and *Iliad* two years later. Flaxman found himself suddenly a figure of European fame. Before he left Italy he was elected a member of the Academies of Ferrara and Florence. Three years after his return to England he was elected an A.R.A., and in 1800 made a full Academician.

To understand the reasons for the sudden and resounding success of these Homeric illustrations it is necessary to consider the development of neo-classic aesthetics since 1760. By 1790 neo-classic theory and practice had travelled far since the inception of the movement. With David's *Oath of the Horatii* of 1785, one of the great climacterics of the movement, neo-classic painting had passed far beyond the slightly naïve historical approach of Hamilton and West or the sentimentalized classicism of Vien, Angelica Kauffman or Clodion. In the succeeding twenty years art had turned its back firmly on rococo frivolity and adopted a very consciously austere attitude. Ideal Beauty, deprived of all accidental elements, was the aim of art, which was also expected by its practitioners to convey a moral message and in David's view, at any rate, it ought to instil the political morality and values of Republican Rome. After freeing himself completely from the influence of Boucher, his first master, David developed a hard, unsympathetic method of painting, deliberately eschewing any appeal in the handling of his paint such as had accounted in part at least for the success of a Fragonard or a Chardin. But by 1790 it was beginning to be felt in advanced circles, especially in Rome, that even this disciplining of the physical character and ethical content of art had proceeded insufficiently far. Even the austerity of Davidian classicism itself needed purifying and academic theory must be pushed to its logical conclusion. Ideal beauty must be generalized, all accidental elements, such as colour and even shadow must be reduced to a minimum, or, if possible, eliminated. As early as 1785, Volpato and Morghen were already priding themselves on their engravings after antique statues '*in simplici contorni con poche ombre*.' But antiquity itself had provided artists with better models for this 'silhouette' art in the Greek vases that were being dug up in such quantities in South Italy and were being collected with such avidity, especially by the English.

The catalogue of Sir William Hamilton's first collection of these 'Etruscan' vases (as they were then called), issued in 1767, had been sumptuously produced, the greater number of the illustrations being in hand-coloured facsimile. Neither pains nor expense were spared, and the result is still one of the most beautiful examples of book production of the second half of the eighteenth century. When the time came for a catalogue of the second collection which Hamilton formed after disposing of the first to the British Museum, a different type of reproduction was decided upon. Tischbein, the friend of Goethe and head of the Academy at Naples, undertook to illustrate it by outline engravings. In doing this, Tischbein felt that he was not only purifying art, 'reviving the noble simplicity of drawing,' but rendering a service to his pupils at the Academy by providing them with a repertory of antique costumes, furniture, etc. The first of his five volumes appeared at Naples in 1791 and was an immediate success.

There can be little doubt that it made a great impression on Flaxman just at the moment when Mrs. Hare-Naylor's commission provided him with an opportunity to do some original work of the same character as Tischbein's vase copies. We have already seen that he had long been talking of 'the simple line of the antique,' and we know from his letters to Romney that he had been studying Greek vases assiduously whilst in Italy. To the same correspondent he writes: 'The ancient Sarcophagi present a magnificent collection of compositions from the great poets of antiquity—Homer, Hesiod, Aeschylus . . . the study of these will give the young artist the true principle of composition.' The Homeric drawings are the fruit of such studies as these; for they are tributes to 'the simple line of the antique' and 'the true principles of composition' as found in antique sarcophagi. They exactly hit enlightened public taste of the moment and it was they, together with his later series of outline drawings from Aeschylus (and subsequently from Dante), which brought Flaxman a reputation which lasted almost a century and was continuously fed by new editions in almost every Western language. The reason for their popular success is not hard to seek. It is all very well to say, as has a modern writer, that they exhibit 'the forms of classic art less as an embodiment of the classic than as a means to express the sentimental refinement which was the mark of the age.' As Anatole France reminds us, '*chaque generation imagine à nouveau les chefs d'œuvres antiques et leur communique de la sorte une immortalite mourante*.' To say, as the writer of the above quoted passage does, that 'the enthusiasm for classical antiquity which filled the air was not particularly robust,' is to miss the point and read history backwards from an unwarrantably superior standpoint of our own. Flaxman in his line drawings summed up for his own generation exactly what classical art meant to them.

The Homeric illustrations are not, of course, the aspect of Flaxman's work which appeals to us to-day, and for which we value him. And it was not for these works that his English contemporaries came to esteem him. Sculpture was, after all, the main concern of his life; the line drawings were only, in a sense, pot-boilers. After his return from Rome he devoted himself for the rest of his life to sculpture and principally to memorial sculpture. It is on this that his real and permanent reputation must rest. But in these his neo-classicism takes a new and specifically English turn; consequently they hardly concern us here. The sentimentalizing side of neo-classicism played an increasingly important part in Flaxman's memorials. Sir Thomas Lawrence justly said of him, 'though the master of its purest lines, he was more the sculptor of sentiment than of form.'

There are a number of reasons why English sculpture and painting diverged markedly from French in the years between 1795 and 1815. David became the virtual dictator of French art during the earlier stages of the Revolution. With the rise of Napoleon and the establishment of the Empire, the austere romanizing

side of David's art received new impulse, art became an instrument of propaganda and was used to underline the parallels between Napoleon's European Empire and that of Imperial Rome. This very fact alone made it anathema in an England at war with Napoleon. The reverse proposition was not true, however; for David himself admired Flaxman, and on seeing the Homeric illustrations remarked, '*cet ouvrage fera faire des tableaux.*' But when Flaxman, like so many artists, visited Paris during the short Peace of Amiens, he refused to meet the 'atheist and Kingmurderer,' although David indicated that he would have liked to know him personally.

When he died in 1826, the *Gentleman's Magazine* wrote that Flaxman had 'acquired a higher reputation than any artist of our country excepting Sir Christopher Wren and Sir Joshua Reynolds,' and although the comparisons give an exaggerated eminence to Flaxman as an artist, the statement is probably not too unfair as an estimate of his international reputation. Even so romantic an artist as Ary Scheffer could write as late as the 1840's that every young artist '*veut avoir son Flaxman, comme chaque veut avoir son Albert Durer, son Rembrandt, son Goya.*' And speaking to a friend of his masterpiece, *Francesca da Rimini*, he said: 'If I *have* unconsciously borrowed from ANYONE, in the design of the *Francesca*, it must have been from something I had seen among Flaxman's drawings.' But amongst Continental artists there were a few for whom he was more than merely the author of the Homeric illustrations, especially in Italy where his first resounding success had been achieved. Canova greatly admired him as a sculptor, and other Italian sculptors thought highly of him as well. Perhaps the most remarkable tribute ever paid to him by a fellow artist was made by the Italian sculptor Bartolini. A year or two before Flaxman's death, in the course of a letter to his father, the future Prime Minister of England, young Benjamin Disraeli, reported a conversation he had had with Bartolini:—

Florence, Sept. 29, 1825.

'There are some clever artists and sculptors at Florence, among the latter, since the death of Canova, Bartolini is reckoned the most eminent in Italy. He is a man of genius. I had the honour of a very long conversation with him, of course, upon his art. He is a friend of Chantrey, but the god of his idolatry and indeed of all the Italians, is Flaxman. Bartolini said that he considered Flaxman had revived the taste of Europe, that he was a classic, and that he thought a young man might study his works with as much advantage as the treasures of the Vatican or the Tribune. He asked me to explain the reason for the indifference of the English to this great man, and expressed his surprise at finding him almost unknown to the great number of our travelling countrymen, and little esteemed even by our great artists. He mentioned Wilkie's opinion of Flaxman with his eyes up to the sky. It seems the English Teniers is no great admirer of one whom Bartolini says is the greatest poet that ever lived, though he never wrote a verse.'[4]

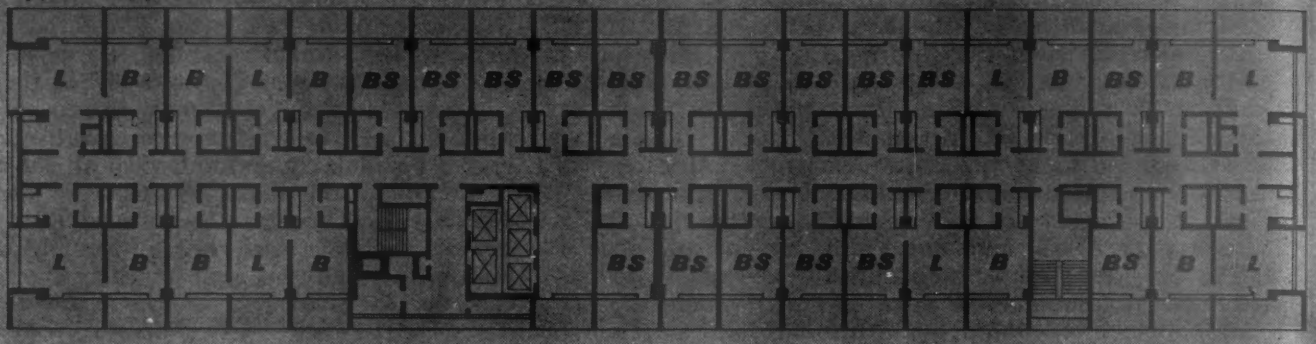
Tributes to English art and artists from Continental sources are sufficiently rare to make this little-known one worth quoting at length in the year which marks the second centenary of Flaxman's birth.

5, Flaxman, self-portrait.

[4] *Life of the Earl of Beaconsfield*, by W. F. Monypenny (1910), Vol. I, p. 107.

HOTEL AT ISTANBUL

typical upper floor



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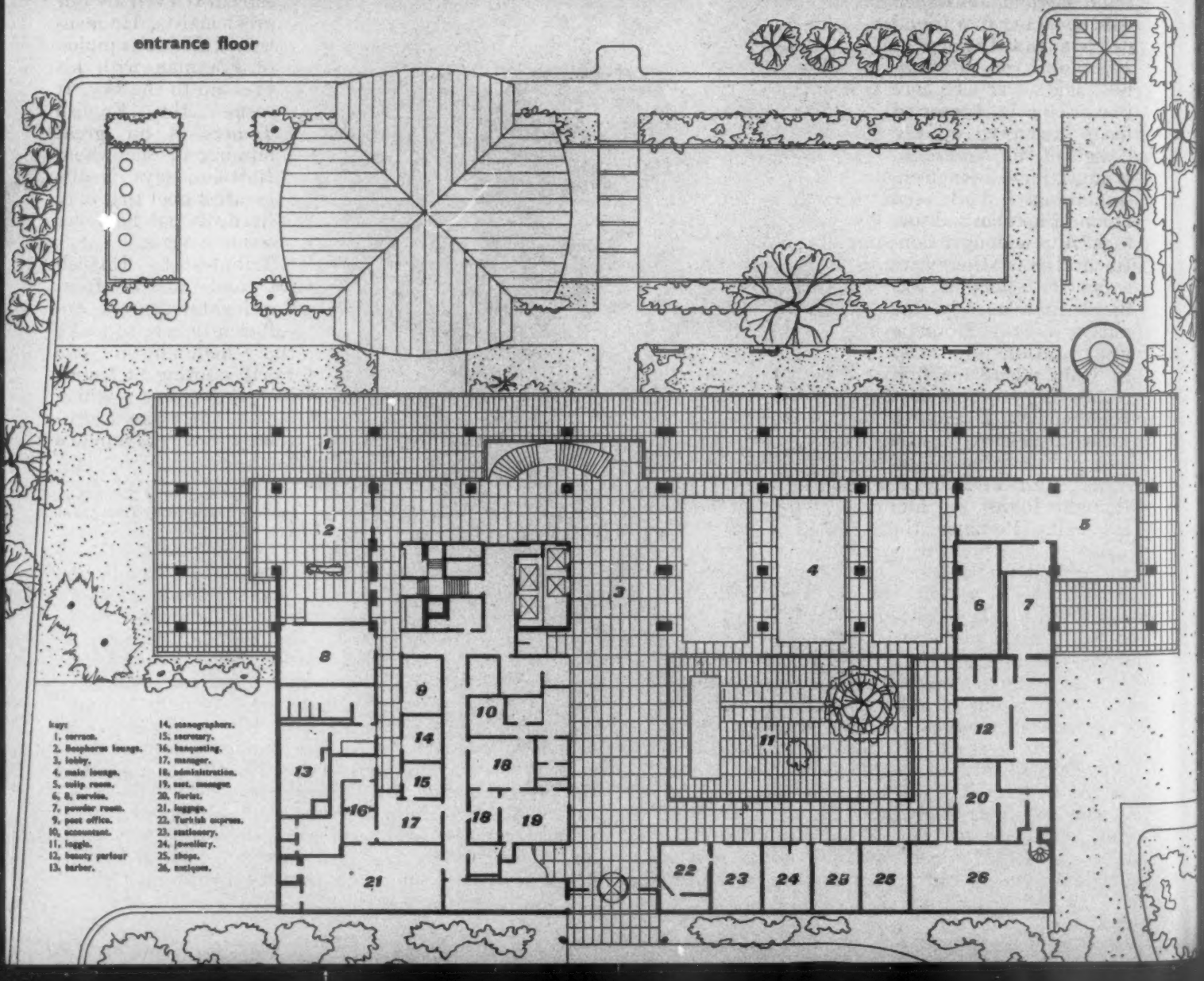
entrance floor



key:
1. entrance.
2. Bosphorus lounge.
3. lobby.
4. main lounge.
5. tulip room.
6, 8. service.
7. powder room.
9. post office.
10. accountant.
11. loggia.
12. beauty parlour
13. barber.
14. stenographers.
15. secretary.
16. banqueting.
17. manager.
18. administration.
19. asst. manager.
20. florist.
21. luggage.
22. Turkish express.
23. stationery.
24. jewellery.
25. shops.
26. antiques.

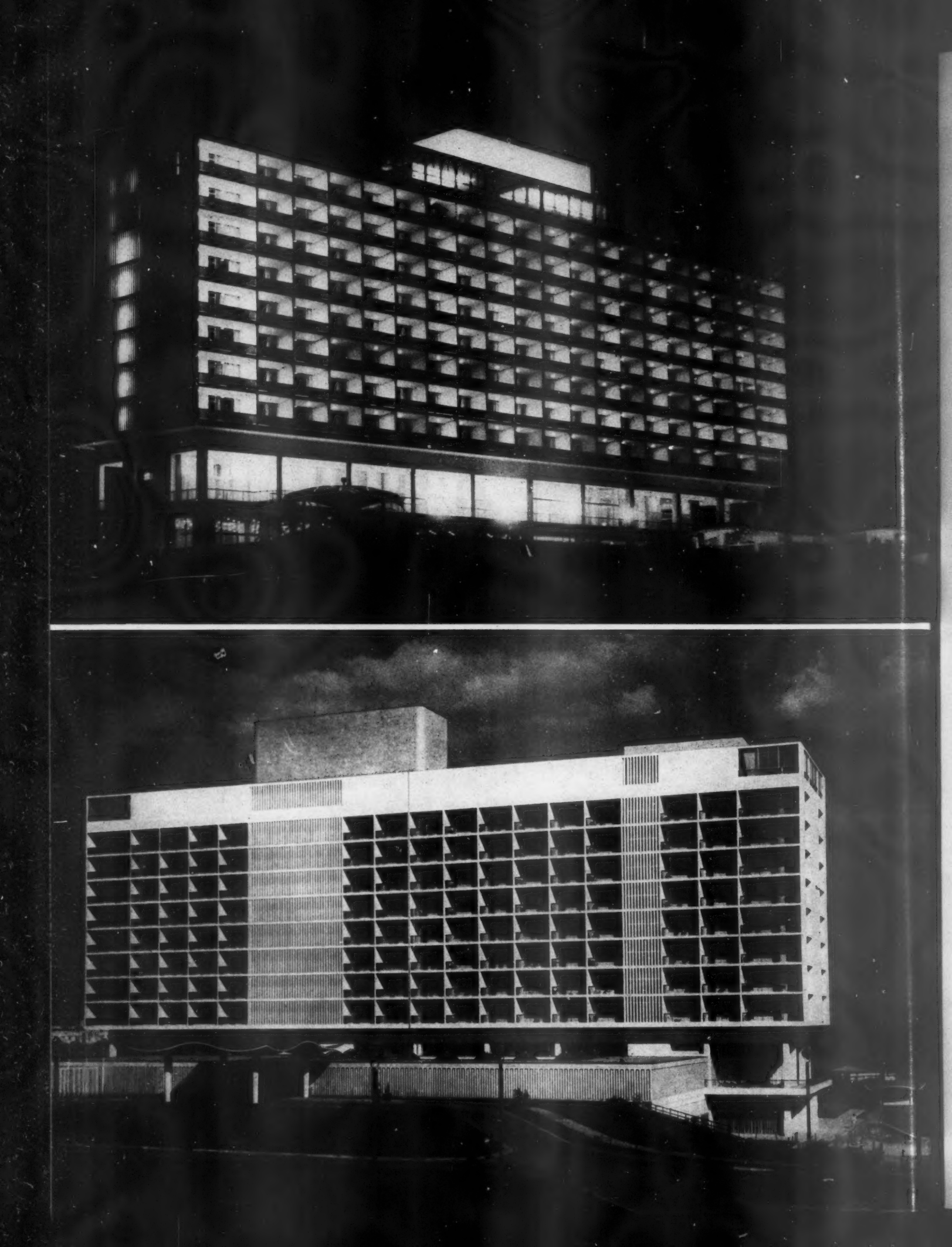
HOTEL IN ISTANBUL

ARCHITECTS | **SKIDMORE, OWINGS & MERRILL**

in collaboration with | **Sedad H. Eldem**

1, view of Istanbul Hilton from the south-east; the hotel entrance is on the extreme right. The Bosphorus is behind, with the old city on the further shore.

The Istanbul Hilton Hotel is the fourth hotel to be opened which is operated outside the United States by Hilton Hotels International Inc., the others being in Madrid, Puerto Rico and Chihuahua, Mexico. In all four cases, the building was financed locally and Hilton Hotels are lessees. Five others are under construction,



4

On facing page, 2, above, the hotel's front to the Bosphorus and, 3, the west (entrance) front. The block rising from general roof level is the building's service core. The large canopy, right of 3, encloses the Sadirvan supper room. 4, closer view of small terrace canopy, also seen in 3, with a mosaic roof.

5

6

7

5, the patio on the entrance floor surrounded by the lobby and a number of shops. The two cupolas seen beyond are part of a series which stud the lobby roof. 6, the reinforced concrete canopy shie ding the hotel entrance, based on the Gate of Felicity, which forms the entrance to the inner courtyard of the old Teraglio. 7, a reinforced concrete stair, leading from the main terrace to the garden below ; the stringcourse is faced with travertine.

while more are under contract or at the 'discussion stage'.

The Istanbul Hilton is on a high promontory overlooking the Bosphorus, occupying 20 acres of a public park. It has 11 storeys and contains 300 rooms and suites. The structure is of reinforced concrete standing on continuous footing beams. Beams throughout the building are over-sized, to economize in steel and to lessen the danger from earthquakes. The main block contains the bedrooms and follows the plan of most tourist hotels ; the lower floors, however, are extended to provide lounges, restaurants, shops, private conference and banqueting rooms, all opening out on to the gardens. The entrance floor contains the main lounge which has two long walls of aluminium-framed glass, one overlooking the enclosed landscaped patio, the other overlooking the garden and reflecting pool, with the Bosphorus beyond. The canopy over the entrance on the north-west side, inspired by a gate of the Old Seraglio, characterizes the chief decorative motif of the hotel ; cupolas crowned with pinnnacles are incorporated in the lobby and shop ceilings. The south wall of the lobby is constructed of turquoise Kutahya tiles decorated with traditional Turkish motifs. The lobby furniture is all contemporary in style in contrast to that of the adjoining 'Tulip room', where wooden grilles, silk draperies, low couches and old and modern painted furniture are combined to create an oriental atmosphere.

A reinforced concrete marble-faced staircase descends to the garden-level floor ; here the Terrace restaurant, which seats 500, has folding floor-to-ceiling panels which can divide it into several individual entities ; and the ceiling is of perforated aluminium panels. Three walls are oak-panelled ; the fourth, facing the Bosphorus, is

8
9

8, above, the main lounge, looking from the entrance towards the long window-wall facing the Bosphorus. Cupolas are seen in the ceiling. 9, right, entrance to one of the lifts ; the surrounding wall is faced with marble strips.

glass. A covered way leads to the 'Sadirvan' (fountain) supper room, with a large cupola ceiling and a sprung floor. The small 'Karagoz' bar, between the two last-mentioned rooms, is decorated with karagoz (puppet theatre) figures. On the hotel roof is the Marmora bar ; its domed ceiling has decorated fins radiating from a central medallion, the whole lit by hundreds of small concealed lights. An adjacent roof-garden has facilities for dancing.

All guest rooms have a bath and shower and a private balcony. Access to the balcony is through an aluminium-framed glass door forming part of the window wall running the whole length of the building. All the bedroom furniture, except the chairs, has been supplied to

10

11

10. interior of the Marmora bar, situated on the hotel roof: the 40 fins and the central medallion in the cupola are decorated with motifs abstracted from Turkey carpets. 11. a typical bedroom interior, showing the English-made teak furniture and a wall panel designed by Piero Fornasetti. The radio cabinet has a perforated formica front. 12, the Terrace restaurant on the garden-floor level. The ceiling is aluminium. Removable folding panels are capable of dividing the room into several more intimate sections. 13, the main lobby, looking from south to north.

Hilton designs by an English firm, and is in teak with a dark oiled finish. The same English firm also supplied the furniture in the managerial offices, following its own standard design.

All the hotel's 15,000 sq. yds. of carpeting were hand-woven at Konya, a leading modern Turkish carpet centre. The kitchen and bar areas were designed in New York. There are separate 'walk-in' refrigerators for meat, fish, poultry, cold meats, vegetables and dairy produce. Six strategically placed ice 'flakers' and 'cubers' keep all areas constantly supplied. The garbage is also refrigerated. The main cooking ranges are gas-heated supplemented by small charcoal and electric table grills for *à la carte* service.

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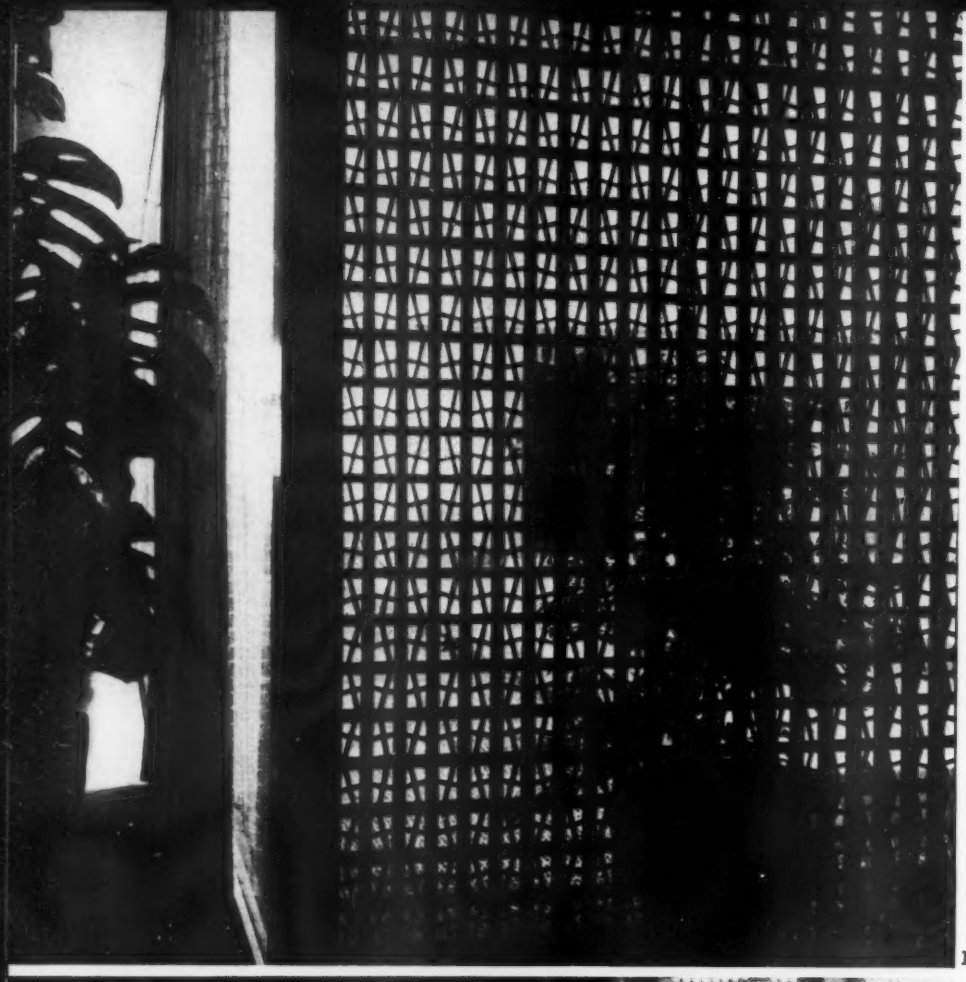

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16

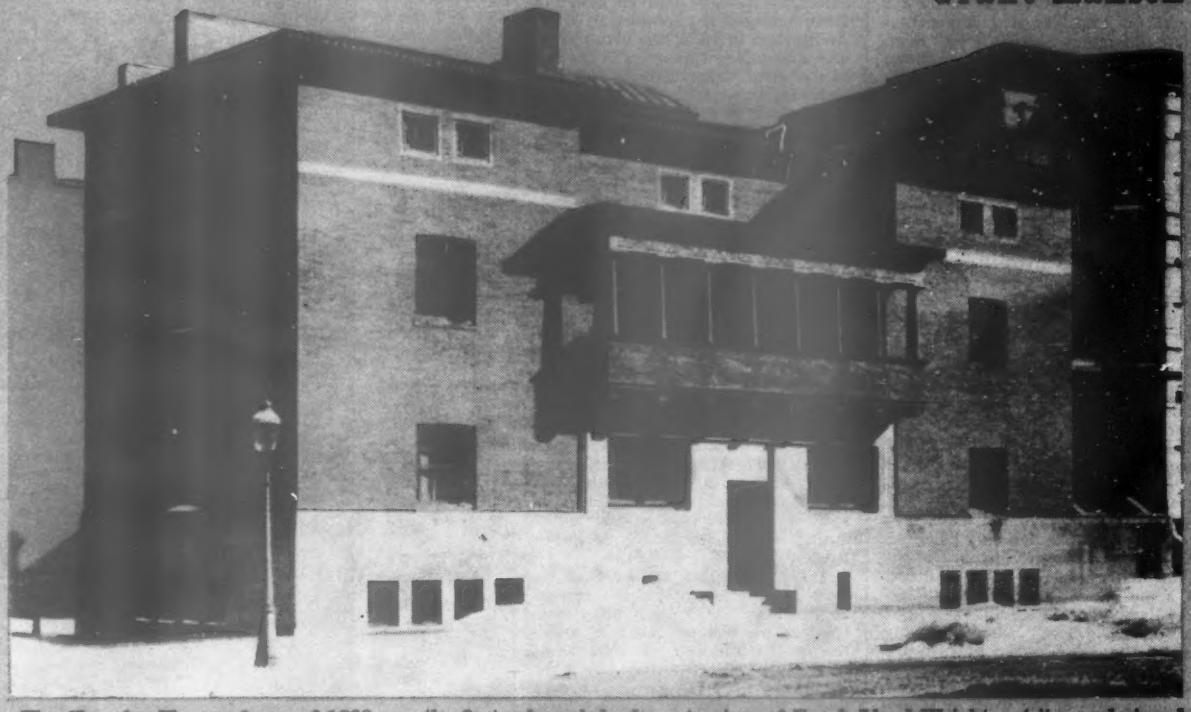
14, a teak and bronze *kafe*, or screen of traditional Turkish design, in the Tulip Room, adjoining the main lobby, and 15, also in the Tulip Room, banquettes and a pedestal ashtray. 16, above, a standard dressing table of English manufacture, of teak with brass feet and handles.

15

SULLIVAN AND WRIGHT

AN UNEASY UNION OF CELTS

Grant Manson



The Charnley House, above, of 1892 was the first acknowledged masterpiece of Frank Lloyd Wright, yet it was designed in the name of the Adler and Sullivan office. In the article below, Grant Manson examines the position of Wright in an office that was primarily interested in public buildings, and throws new light on his legendary discipleship with Louis Sullivan.

Much has been said and more has been inferred concerning the association of Louis Sullivan and Frank Lloyd Wright. Because of its importance to the history of architecture, it is a relationship that deserves every attention; yet, like a mirage, it grows less substantial as it is approached. We find that we are dealing, not with a case of artistic cross-influences in the ordinary sense, but with the interplay of two creative Celtic minds in transient and (by definition) unstable union.

In the muscular young prairie metropolis of Chicago of the '80s and '90s, Louis Sullivan was a towering force. There was no sign in him of that spiritual weakness which was ultimately to bring about the tragic defeat and retirement in which he passed his later years. He attracted many disciples, to whom he was 'der Lieber Meister.' All those younger architects, including Wright, who can claim membership in the ranks of the Chicago School, responded without reserve to Sullivan's challenge, each according to his gifts. It was a cult, and none has more eagerly acknowledged allegiance than Wright, who, ever since his first public statement of admiration for Sullivan in 1908,[1] has steadily developed and elaborated the theme of Sullivan's influence upon him.

Among the adherents of Sullivan, Wright occupies on many scores a separate place. He alone survived the break-up of the Chicago School; and he has gone on to attain a position of world-wide eminence. Great as the generalized impact of Sullivan's work may have been upon his evolving genius, he simply cannot be classed as a disciple, much as he would like to be. It is obvious that Wright and Sullivan were of equal stature; and, indeed, as we go a little more deeply into the relationship we begin to ask ourselves whether, if there actually was an exertion of influence, it did not flow as much in Sullivan's direction as in Wright's. We begin to look upon Wright's maintenance of the master-disciple attitude as nothing more than an amiable *idée-fixe*.

George Elmslie, a member of the Chicago School in his own right, and who may be presumed to have had as detailed a knowledge of these matters as anyone, once said[2]: 'A fine sense of camaraderie existed between those two men [Sullivan and Wright] at that time. . . . Wright even then bore all the marks of what he has become, the outstanding figure of our day . . . Sullivan did not, of course, need Wright; while the latter has emphasized in glowing terms the benefits he received in communion with his master. Wright, however, would have come into his own if he had never met Sullivan. Sullivan did not make Wright in any sense, each was *sui generis*, and both marked men of the ages.'

This statement has the ring of authority and is probably very near the truth. Nevertheless, it cannot be denied that Sullivan, in some manner or other, gave Wright's career its first marked stimulus; the contact cannot be dismissed as an episode of only legendary or peripheral value to either man concerned. It was a day to be reckoned with, therefore, when, late in the year 1887, Wright applied at the office of Adler & Sullivan for a job.

Wright had been employed for several months in the office of Joseph Silsbee, an architect of rather better taste than usual for the time who, although he specialized in domestic architecture, had occasionally undertaken an eccentric commission for the Lloyd-Jones clan.[3] Wright tells in 'An Autobiography'[4] how he learned from a fellow-draughtsman at Silsbee's of the opening at Adler & Sullivan's, and how anxious he suddenly was to fill it. He had already grown weary of the pleasant picturesqueness of Silsbee's modified 'Queen Anne' houses, and he craved the excitement he felt he would find at Sullivan's. Wright managed to see Sullivan for a few minutes on the first try; a subsequent interview was arranged, and Wright stayed up late for three nights preparing a sheaf of drawings to take along. It is interesting to see how he went about this: 'Some of Silsbee's own drawings of mantels and ornament I took, and drew

[1] Frank Lloyd Wright: *In the Cause of Architecture*, First Paper, March, 1908.

[2] George Elmslie: *The Chicago School of Architecture; Its Inheritance and Bequest*, paper read before the Illinois Society of Archts., Nov. 28, 1939.

[3] Silsbee designed a church on Chicago's South Side for Wright's uncle, the Rev. Jenkin Lloyd-Jones (a Unitarian minister of considerable influence in his day), and some school-buildings at Spring Green, Wisconsin, for Wright's aunts, the Misses Nell and Jane Lloyd-Jones, who founded a liberal boarding-school.

[4] Frank Lloyd Wright: *An Autobiography*, Longmans, Green & Co., New York, 1938, pp. 88-91.

them my own way, directly and simply with clear definition. Not sentimental and "sketchy." Silsbee's way was magnificent, his strokes like standing corn in the field waving in the breeze. So I imitated his style in some few drawings just to show I could do that. Then I improvised some ornaments such as I had seen, characteristic of the Adler & Sullivan buildings. I had studied them a little since I had learned of their work. . . . Another evening I took the onion-skin tracing of ornamental details I had made from Owen Jones,[5] mostly Gothic, and made them over into "Sullivanesque".' We learn that Sullivan inspected the drawings during the interview and that his reactions were caustic; but he hired Wright at twenty-five dollars a week. At this moment, Sullivan was in his thirty-first year, Wright in his eighteenth. The youthfulness of the protagonists was in the best Victorian tradition.

When Wright reported for duty, Sullivan was working on the Auditorium designs. It is easy to imagine how the sight of these plans exhilarated Wright and made him feel that he was at last in the main currents of contemporary architecture. But, as a matter of fact, Sullivan was himself a newcomer to these currents. He had only begun to make architectural history about eighteen months before, a condition of some significance to the understanding of the Sullivan-Wright relationship. The Master, having passed through a period of awkward dependence upon such cumbersome 'Styles' as the 'Egyptian'[6], had just become aware of the work of Henry Hobson Richardson, whose terminal masterpieces in both commercial and domestic architecture had been erected in Chicago between the years 1885 and 1887. Through this awareness, Sullivan had abruptly come into his own.

Wright describes Sullivan's awakening in wry terms, and with the advantage of long hindsight[7]: 'Richardson at this time had a decided effect upon Sullivan's work, as may be seen in the outside of the Auditorium building itself, the Walker Wholesale, and other buildings. The effect is unmistakable, although he [i.e., Sullivan] seemed to hold Richardson in no very high esteem.' The Marshall Field Warehouse, the Glessner house, and the MacVeagh house were brilliant examples of Richardson's final phase—a phase characterized by unparalleled penetration and freedom in the handling of American nineteenth-century architectural requirements. Their superficial quality, their 'Romanesque Style,' was to go on exfoliating in the work of Chicago architects for two decades; but Sullivan distilled from these now famous buildings their true meaning and permitted it to crystallize that drive toward experimental architecture in which he was to be engaged, and with which he, in turn, inspired Wright. Among other things, it was no accident that Sullivan first introduced into his designs in the year 1886 that curious, personal ornament which has come to be known as 'Sullivanesque.' Almost overnight, it seems, Sullivan decided to claim his right to express an innate canon of taste, similar to Richardson's only in its independence, and to develop out of it a 'philosophy of ornamentation.'

[5] Owen Jones: *The Grammar of Ornament.*

[6] Or, perhaps better, 'Egyptoid' to denote the debased character of the forms used, as in the Rothschild Store, the Ryerson Building, the Blumenfeld house, etc.; see Hugh Morrison: *Louis Sullivan*, Norton, New York, 1935, plates.

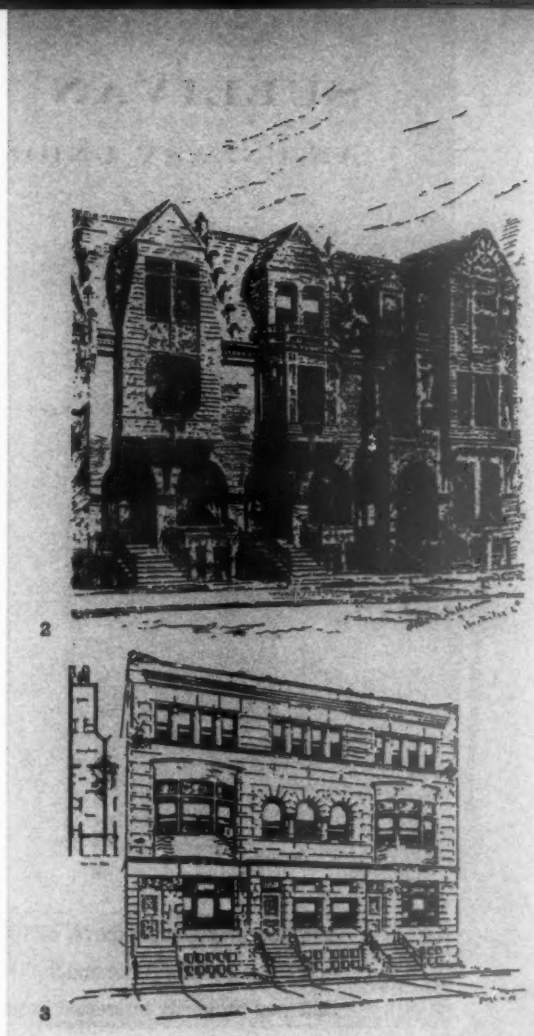
[7] *An Autobiography*, p. 101.

Once established in the office of Adler & Sullivan, Wright rapidly rose to a position of importance. When he first joined the staff, the firm was housed on the top floor of the Borden Block on Randolph Street, an Adler & Sullivan design of 1880; but upon the completion of the Auditorium in 1889, the firm moved into splendid new quarters in the loft of the great tower. Here a separate room adjoining Sullivan's, and of the same size, was set aside as 'Mr. Wright's Office.' It is extraordinary that such a distinction should have been accorded anyone not actually a partner in the business, let alone so young an apprentice as Wright; it is understandable only in the light of Sullivan's early acceptance of Wright as a fellow-artist and prodigy. One of the responsibilities that fell to Wright under Sullivan's tutelage was private-house commissions; these were decidedly not courted by the firm, but had to be accepted from time to time in the interests of diplomacy. It is now believed that the houses erected by the firm of Adler & Sullivan after 1887 were largely the work of Wright, designed in Oak Park after office-hours. They progressed steadily in discipline and individuality, and culminated in 1891 with a genuine masterpiece whose authorship is universally acknowledged.

The houses which Adler & Sullivan turned out prior to Wright's incumbency were indistinguishable from the general run of domestic architecture in Chicago at that time. Many of them still remain along the former residential avenues of the near South Side, now a blighted area, inexpressibly tawdry in their old age. It was the moment, before the healing touch of the Chicago School had been felt in the realm of house-design, of unbridled whimsy, of the determination to elevate the importance of the mass-produced row-house by loading its pinched façade with rich irregularities. The Kohn dwellings (fig. 2) are a fair example of the class; although they bear the imprimatur of the firm of Adler & Sullivan, they are no less distressing than their neighbours.

In the year 1888[8], the firm erected a set of four party-wall houses for Victor Falkenau (fig. 3). This design constitutes the turning-point in the quality of Adler & Sullivan's domestic architecture. In plan, the houses, like the Kohn group, adhere to the standard box-cars scheme, but their façades are in definite contrast. 'Queen Anne' has been replaced by 'Romanesque,' thus echoing in a small voice the radical alterations in the Auditorium designs which had been brought about by a long look at Richardson. But it is possible to feel that in the Falkenau design there is another personal element that is neither Richardson's nor Sullivan's. The façades are surprisingly clean, the inevitable bay windows are tailored and simple in form, much of the ornamentation is styleless, almost abstract, and there is a certain quiet horizontality resulting from the device of alternately projecting stone-courses. Whether or not we may construe such details as these as evidence of a fresh, independent architectural mind at work, the Falkenau houses can be regarded in retrospect as the first step toward a domestic architecture that is to be wholly new and that is soon to be revealed. In the lower right corner of the pen-drawn perspective of the Falkenau houses there is a name neatly lettered: 'Frank L. Wright.'

[8] The date of 1890 ascribed by Morrison to the Falkenau houses is contradicted by entries in Chicago trade publications; the design was published in the *Inland Archt.*, Vol. 11, June, 1888; also, the Chicago city building-permit was issued June 2, 1888.



2, *the Kohn dwellings, Chicago, by Adler & Sullivan before Wright's incumbency;* 3, *a set of houses for Victor Falkenau,* 1888, *marking a turning-point in the firm's domestic architecture: the signature 'Frank L. Wright' appears in the bottom right-hand corner of the drawing.* 4-6, *on the facing page, views of the Charnley house interior.*

The Charnley house on Astor Street in Chicago was erected in 1891 (fig. 1). Although it must stand officially as an Adler & Sullivan design, it is in reality the first great monument of Frank Lloyd Wright's career. That it is Wright's work, and Wright's alone, has long been accepted. Apart from the internal evidence, it is known[9] that the first time the design was seen in the firm's office was the day when Wright brought the completed quarter-scale drawings from his home in Oak Park.

The Charnley design was in every sense a miraculous performance. Wright justly says of it, 'It is the first modern building.' Even to-day it remains clean and challenging among its outworn neighbours, a manifesto of a brand-new architecture. It is a design that owes nothing to anyone but its creator; it is a piece of domestic architecture upon which much of Wright's later work is based, and upon which the whole development of house design in the Chicago School relies. It eschews every whimsy, every complexity, every 'style.' The designer clearly says, 'Let us begin from the beginning.'

It was not as if the unfortunate limitations of the row-house were, as they had been before in the half-dozen Adler & Sullivan domestic commissions undertaken by Wright, a constraining factor. The Charnley property was a corner lot of average dimensions upon which any sort of eclectic caprice could have been built; but the house that Wright built was so simple and apparently effortless as to be revolutionary. The straightforward disposition of interior space finds direct expression on the exterior, an implicit statement of confidence in function. Other than an intensification here and there of the building's natural rhythms, there is little ornament. The openings are severely cut rectangles, admirably placed within wall-surfaces unbroken by mouldings and given the finest texture that dressed limestone and Roman brick can achieve.

The overriding effect of the house is repose, accentuated by contrast with the thrusting pomposities of the 'period' houses all about. Everything —the plain dado, the long balcony, the oblong windows, the wafer-thin bricks, the unipartite cornice, the wide, low chimneys—conspires to produce the level line, the line which Wright hit upon as the *leitmotif* for his celebrated domestic style that was to flower a few years later in the developed Prairie House. Indeed, the Charnley house is a first statement of absolute conviction. This is perhaps the most astonishing thing about it; and, in our astonishment, we overlook its features which, from the viewpoint of Wright's career as a whole, are archaic. But the Charnley house, for all its innovation and portent, has a

[9] Information contained in a letter written by George Elmslie (once a draftsman in Sullivan's office) to the author.

fault which Wright must have realized, and which he soon proceeded to correct: it is closed, resistant, self-contained. The concept of interrelation of structure and atmosphere had not yet taken shape in Wright's imagination. At this moment, he was too concerned with formulating and expressing his other principal contribution, namely, the idea of architecture as geometry.

Inside the Charnley house there is a generous amount of developed Sullivanesque ornament spilling over golden-oak doors, bookcases, mantelpieces, and newel-posts. Otherwise, the rooms forecast Wright's later treatment of inner volumes in the easy, open relationship of the three main spaces—living-room, hall, and dining-room—and in the staircase, enclosed in a cage of square, attenuated oaken spindles, and making a conscious, abstract play of its vertical and horizontal planes (figs. 4-6).

There was no counterpart of the Charnley house anywhere in the world in 1891. Its design was a spontaneous manifestation of a new and unfettered concept of architecture. Certainly, Sullivan acted as the catalytic agent in the matter, but he could have offered little or nothing of practical value toward the realization of the Charnley design. He had devoted his entire attention to public and monumental structures, and to the working out of his 'philosophy of ornamentation'. And his later career, as well, confirms the theory that he had no flair for, nor did he seek, the designing of private houses. From 1893, when Wright and Sullivan parted, until his death in 1924, Sullivan built only two residences, and these are a strange amalgamation of Wright's later domestic style and Sullivan's own vernacular derived from the world of impersonal public architecture.

Sullivan was at bottom a mystic, a frustrated poet. George Elmslie, who knew him so well, once said: 'I have in my possession some of his unpublished literary work; one of the group is a volume called *The Master*. It is a prose poem and a very remarkable document indeed . . . it is himself in the deepest mood he has ever expressed, his inner responses to the outer world.' How revealing this information is! Wright is likewise a romantic, a druid, a latter-day Taliesin. He differs from Sullivan in this respect only by virtue of his hard and indestructible vitality. So in the association of Sullivan and Wright we deal with the communion of two self-confessed Celts, an Irishman and a Welshman, and there is probably no hope of knowing, nor of analysing to a nicety, what passed between them. Sullivan was given to such credos as 'the artist is like an orange tree—bearing continually flowers and ripeness at every stage—pendant golden thoughts—fruits of all that sap we call imagination. . .'[10]. There are stories of conversations between master and 'disciple' that lasted throughout the night[11], conversations about Whitman, Wagner, Richardson, Herbert Spencer. 'I believe,' Wright says, 'the master used to talk to me to express his own feelings and thoughts, regardless, forgetting me often. But I could follow him. And the radical sense of things I had already formed got great encouragement from him. In fact the very sense of things I had been feeling as rebellion was—in him—at work.'

Just as it is hard to translate into terms of brick and mortar the consequences of such an intimacy as this, it is hard to escape the thought that, even then, there might have been something a little contrived and out of focus in the accepted master-disciple behaviour pattern that had become established. It is hard to avoid the suggestion that, while Sullivan's solution of the office-building problem could not have been of any real assistance to Wright in evolving new forms of domestic architecture, there were certain contributions of Wright's to the domestic problem that did exert an influence on Sullivan's public architecture—specifically and deleteriously. It must not be thought that Wright dealt only with the domestic commissions at Adler & Sullivan's; these were usually done by him at home in his own time. During the working day, Wright took an ever-increasing part (ultimately as head-draughtsman) in all the work which passed through the office. This work consisted chiefly of office buildings, theatres, hotels and warehouses. Its quality reached a peak in the epochal design for the Wainwright Building in St. Louis, erected in 1891, the first tall commercial building for which an original and appropriate aesthetic had been formulated. But from 1891 to 1893 this phase of Adler & Sullivan's work shows a steady progression toward smooth wall-surfaces, oblong openings, and unipartite cornices of heavy projection that find precedent nowhere except in the firm's designs for private houses—and notably the Charnley house. The Dooly Block, the Pueblo Opera House, the Seattle Opera House, the St. Nicholas Hotel, and the Schiller Building are cases in point. Of the design of the Schiller Building (fig. 7), Wright says, '. . . owing to Sullivan's love for his new home in the South [his cottage at Ocean Springs, Mississippi], it had been more largely left to me than any other'.[12]

The tall buildings in this group are all hampered by too many inorganic horizontals that purposelessly obstruct their rise from the ground—which is, in any case, stopped abruptly by the massive cornice. There is a comment on this[13] in which Wright gives the impression that Sullivan had invented the jutting unipartite cornice expressly for the Wainwright Building; yet, admitting its complete inappropriateness to such a structure, he goes on to say, '. . . the extension of the roof-slab says emphatically "finished!" The slab had no business to say "finished," or anything else, so emphatically above the city streets, but that was a minor matter soon corrected.' Be that as it may, the roof-slab continued to speak its piece in design after design, each of which wears its heavy crown of cornices or porches uneasily, as if aware of the fact that they belonged somewhere else. Morrison says of them that they are 'picturesque but topheavy,' and the choice of words is significant; for the 'picturesque' was a style originally derived from domestic design of the '80's, and that which is topheavy in these public buildings of Adler & Sullivan's is the porch-and-cupola motif borrowed from that source and raised to monstrous proportions.

The conclusion appears to be this: the conflicting elements that marked Sullivan's designs in the early '90's, and the disturbing effect of misplaced horizontality and busy-ness that they produced, signalize the intrusion upon the course of his career of another strong personality destined for initial success in the field of domestic architecture; this success was to be gained primarily through the cultivation and dramatization of the extended level line and the free interpenetration of solids and atmo-

[10] Louis Sullivan: 'The Artistic Use of the Imagination,' *Inland Archt. & News Record*, Vol. 14, Oct. 1889, p. 38.

[11] *An Autobiography*, pp. 101-2, 104.

[12] Idem, p. 121.

[13] Frank Lloyd Wright: *In the Cause of Architecture*, Princeton Univ. Press, 1931 pp. 85-86.

4 5 6

7, the Schiller Building, Chicago, built in 1891-2, when Adler & Sullivan's large-scale work was showing a steady progression towards smooth wall-surfaces, oblong openings and heavy projecting cornices, which find precedents only in the firm's private house designs, and notably in the Charnley House, for which Wright was responsible.

sphere. These were qualities alien to the natural bent of an architect whose gifts were leading him toward an answer to the aesthetic problems involved in the steel-grid building. It is significant that not until the time of the Guaranty Building commission in 1894, after Wright had left his shop, was Sullivan again free of motifs that had no rightful place in the skyscraper and could resume his uninhibited pioneering in the realm of the tall public structure. Conversely, Wright's houses from 1893 until the turn of the century are often marred by elements too ambitious or too impersonal for domestic architecture. The Charnley house was a design in which Sullivan, effectively, played no part—it was a major success; the Schiller Building *et al.* were designs in which Wright played too great a part—they were aberrations in Sullivan's career. Professionally speaking, then, Sullivan and Wright were not a team. Together they made not a blend but an unstable emulsion of which the ingredients foreign to each party separated themselves out in the course of time. The confusion of purposes in the Schiller Building was due to the clash of two geniuses whose ultimate destinations were opposed, and who went astray when they allowed themselves to be literally influenced by each other. We come back, in brief, after a long detour, to Elmslie's concise statement of the case.

The association of Sullivan and Wright had been formalized in 1889 by the drawing up of a five-year contract binding Wright's services to the firm of Adler & Sullivan in exchange for financial benefits that would enable the younger man to launch himself in life. Although the contract was ostensibly a straightforward business arrangement, it was prompted by an access of old-fashioned paternalism on Sullivan's part. Sullivan was unmarried,[14] and there is the suggestion of a compensatory impulse in his interest in Wright's domestic life. By 1889 Wright was engaged to be married. He wanted to build a house; he needed practical assistance, and the contract was the answer, since it enabled him to draw advances on his salary. It was also, ironically enough, the cause of the undoing of the Sullivan-Wright relationship.

As for Wright's establishment of a home and studio in Oak Park that were to be the centre of his activities for so many important years to come, it is enough to say here in extenuation of what happened to the contract that both Wright's establishment and his family grew rapidly. It became necessary to augment his income, and he began to accept commissions for houses which he designed privately by stretching out his nights and week-ends. These 'bootlegged houses," as he refers to them, amounting to some nine or ten in all, were not a violation of the letter of his contract with Adler & Sullivan —but they were certainly clandestine in the sense that Wright did not mention them in Sullivan's presence, nor were the contracts listed in local building-journals under Wright's name. Inevitably, however, Sullivan found out about them, and regarded them as an act of treason. One day in the Spring of 1893 there was an angry scene. Wright walked out of Sullivan's office never to return. As for the five-year contract, it was simply permitted to lapse; but it took a number of years for Wright to obtain the deed to his Oak Park house, and then it was not Sullivan but Adler who made it over to him. The 'bootlegged houses' were thus a milestone in Wright's independent career, and the mechanism of release from an association that had fulfilled its curious destiny. Wright did not see Sullivan again until sometime after 1910.

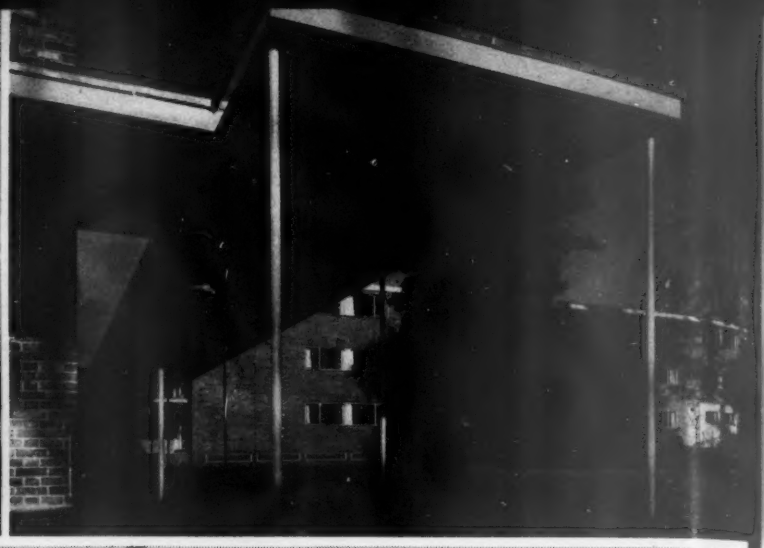
[14] Sullivan's one marriage did not occur until 1899; it was without issue and terminated in divorce.

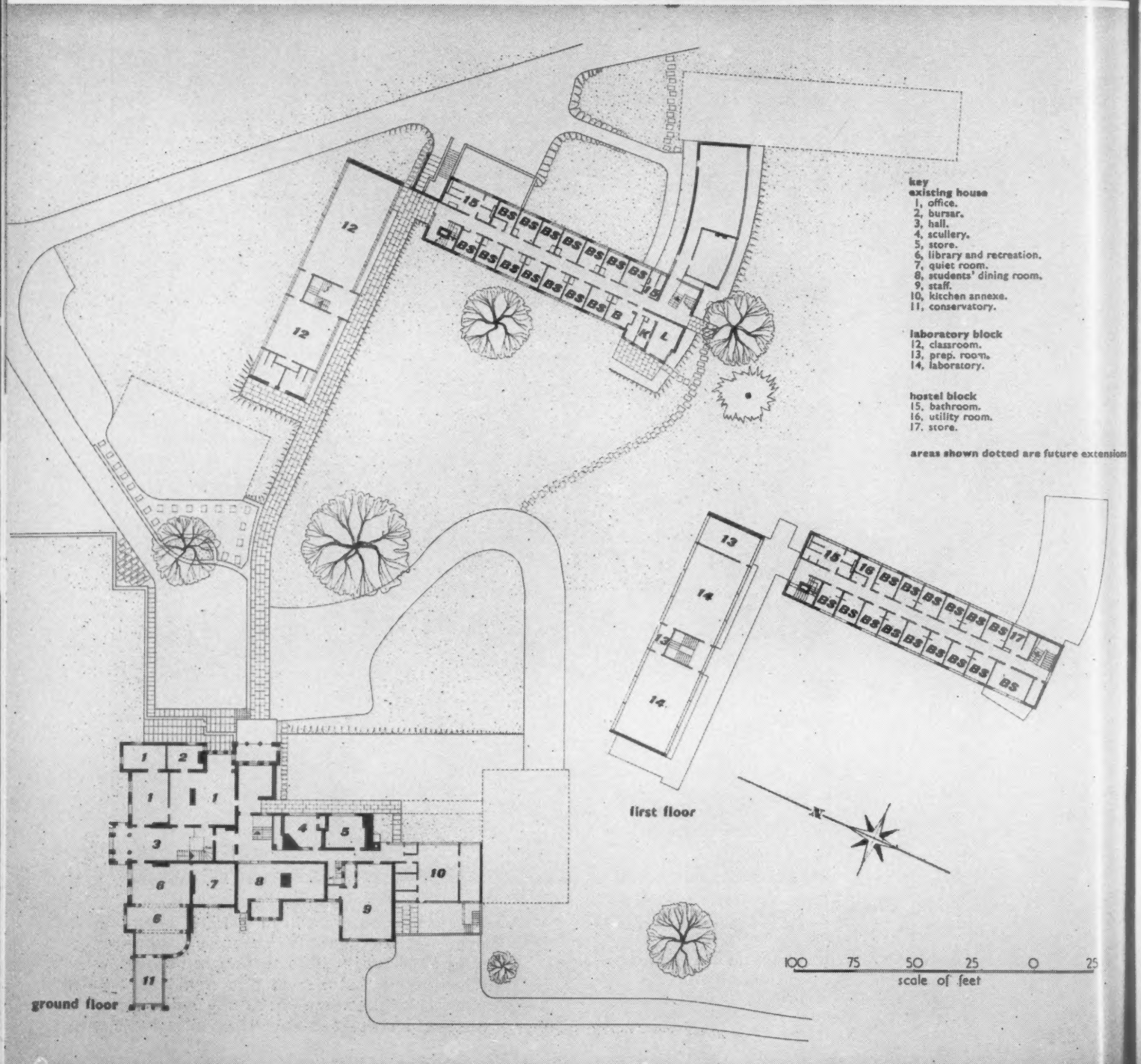
COLLEGE AT PERSHORE

ARCHITECTS | **RICHARD SHEPPARD & PARTNERS**
Architect-in-Charge | **Deirdre Downer**

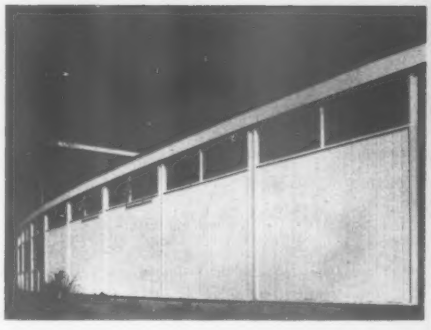
1, view along covered way on the north (entrance) side of the laboratory block; beyond can be seen the entrance to the house "Avonbank". The earth between the paving and the wall is to be planted.

This Horticultural Institute, which is being built in three stages, is designed to accommodate ultimately one hundred and twenty students taking a one-year course in horticulture and also to give short-term training courses, of which some will be open to non-residents. The layout and equipment of the buildings allow for anything




key
existing house
1, office.
2, bursar.
3, hall.
4, scullery.
5, store.
6, library and recreation.
7, quiet room.
8, students' dining room.
9, staff.
10, kitchen annexe.
11, conservatory.
laboratory block
12, classroom.
13, prep. room.
14, laboratory.
hostel block
15, bathroom.
16, utility room.
17, store.
areas shown dotted are future extension
ground floor
first floor
100 75 50 25 0 25
scale of feet

On facing page, 2, left, common-room in the curving, one-storey link block connecting the completed hostel building with another still to be built on the east ; 3, right, west view of the hostel with laboratory block in the foreground.



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from a comprehensive course in farming to care of agricultural machinery. In this stage accommodation has only been provided for fifty students. The site of the College, one hundred and twenty acres on rising ground adjoining the River Avon on the Pershore/Evesham Road, was very well timbered and planted and included a Victorian mansion, which had to be retained. Living accommodation was required for students, farm and permanent teaching staff, in the form of hostels, houses and flats, with administration, dining and recreation facilities.

The siting of the buildings was determined by agricultural considerations, as it was important that the new buildings should not encroach too much on valuable growing land—the best, containing some fine trees, being near the existing house. All services between buildings are, therefore, in ducts to avoid obstructing the cultivation of land. The acre of greenhouses had to be on a level, easily drained site, with no overshadowing. The general farm buildings were required to be central on the road system in order to provide easy access for vehicles to the land. Land not required for extensive agriculture is to be grassed and buildings for livestock are placed near. The position of the farm workers' cottages is related to greenhouse maintenance and the care of livestock. Both hostel blocks, including the present one, are double banked and are, therefore, placed on a north and south axis. Laboratories and the future assembly hall are related to the existing house, Avonbank, and to the future extension of this house, which is planned in the third stage.

The main buildings are in facing bricks with either flat or very low-pitched roofs. The facing bricks used were Surrey multi-coloured hand-made stocks for the houses and the pump-house, common bricks for the farm building and greenhouses, and blue brindle semi-engineering for the hostel, laboratory and kitchen blocks. The walls of the cottages and the principal's house are 11 in. cavity brick with some rendered panels and vertical weather boarding, with roofs in light timber trusses, finished with felt on wood-wool. The hostel has 13½ in. and 11 in. external cavity walls and 6 in. and 4½ in. internal partitions, with r.c. ground-floor slab and first and second floors in prestressed beams with hollow pot infilling. Roofs are wood-wool on timber joists, asphalted. The laboratory block is similar, but with 13½ in. solid end walls: panel infilling, 4½ in. brick, 3 in. breeze blocks.

5

6

7

4, south wall of the link block ; the vertical boarded section contains the changing room, seen, 5, from outside the common-room in the corridor ; 6, laboratory block from the north-west, looking across the site of the future assembly hall ; 7, interior of common-room, with clerestory windows rising above the roof of the corridor ; 8, the principal's house.

8

Large areas of this country lie sterile and useless, a sordid reminder of the industries that, having raped the land of its mineral wealth, moved on leaving behind a ruined landscape; a squalid no man's land of waste tips and subsidence littered with rubbish, 1, below. This land can be reclaimed but in doing so the planners (who are already at work) should not overlook the fact that some of the traditional 'eyesores' could be the elements of fine landscape, 2, left.

Kenneth Browne

There are few instances of anyone tackling the problem of land reclamation on the really large scale which it demands, an exception being in Lancashire which contains some 10,000 acres of man-made dereliction, mainly caused by coal mining, and forming perhaps a tenth of the total dereliction throughout the country. Here, the County Planning Authority, whose drive and enthusiasm deserves the widest possible public recognition, has made a detailed survey of the extent of dereliction, carried out pioneer experiments in planting grass and trees on colliery spoil and embarked on a large programme of reclamation as a follow-up to its development plan. On the following pages Kenneth Browne illustrates some of the work already under way and makes suggestions which will be commented on next month by the Lancashire County Planning Officer.

Dereliction

No one is likely to dispute that in a country as small as ours it is essential that every acre be put to its best use, for production, housing or recreation, yet in fact there are vast areas of desolation which serve none of these. Thousands of fertile acres have been rendered useless in the past by the indiscriminate tipping of waste materials, by mining subsidence, which has left the land crumpled, sunken and waterlogged, by unfilled excavations, and by the ruined buildings and equipment of abandoned workings. This tragic misuse of land is still going on, a continuing wastage accelerated by the use of modern machinery, when, properly planned, the same machinery could be used to facilitate the restoration of the land instead of its destruction. For example, the National Coal Board, to save cost, continues to surface tip when by stowing spoil underground the tips would be avoided and subsidence greatly reduced.

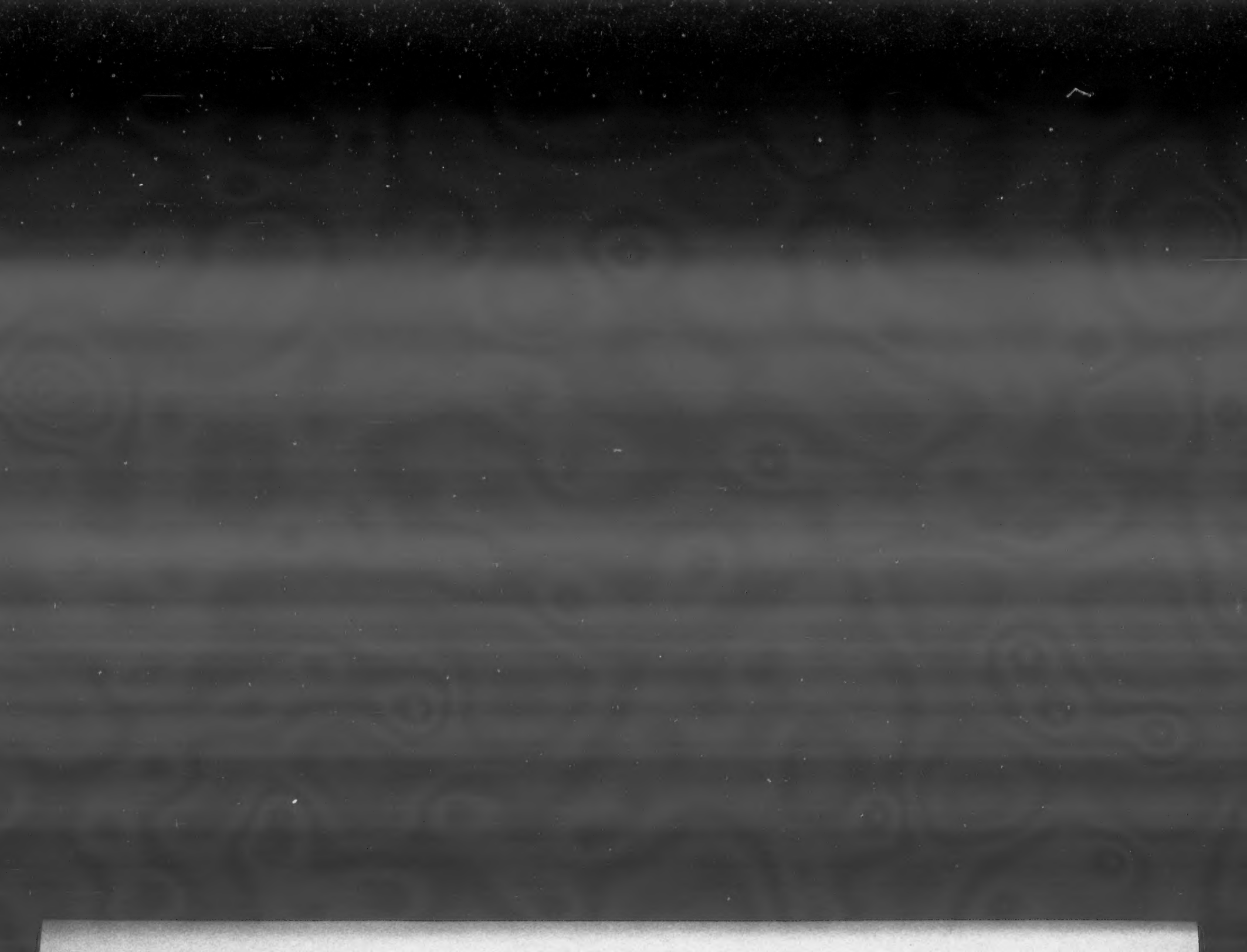
Whilst huge areas lie waste and abandoned, industry and housing go on eating up good agricultural land, the market price of which bears no relation to its true value to the country as amenity. At the same time, the Ministry of Agriculture has no powers in return to reclaim derelict land for farming. The criminal folly of the position can be appreciated from the fact that in tight-packed industrial areas where disposal of the great quantities of waste produced is a major problem, a hole in the ground often becomes the most valuable land there is, since the owners of excavations or sunken land which needs filling are not slow to cash in on the situation and charge up to 5s. a ton for tipping. In consequence, though there may be a hole right next door it is often found cheaper to buy up good land farther away and tip on that. By contrast, in outlying areas,

the owners of sunken land are unable to get filling to level it up unless they are prepared to pay. This ludicrous situation is due largely to the fact that there has been no national policy of reclamation in the past, and problems were tackled piecemeal by the local authorities, often in a blinkered, shortsighted way.

The recent detailed survey of dereliction carried out by Lancashire revealed some startling facts: one area near Wigan, for instance, was found to be 40 per cent. derelict whilst in other areas it was discovered that nearly half the land not used for agriculture was not used for anything. That physical dereliction is accompanied by moral dereliction is suggested by the phenomenally high incidence of crime in the ruined areas. Lancashire's policy seeks to check further dereliction through control of new development, requiring stripping of topsoil and eventual reinstatement, and, with existing workings, tries to persuade mining industries and tipping authorities to co-operate.

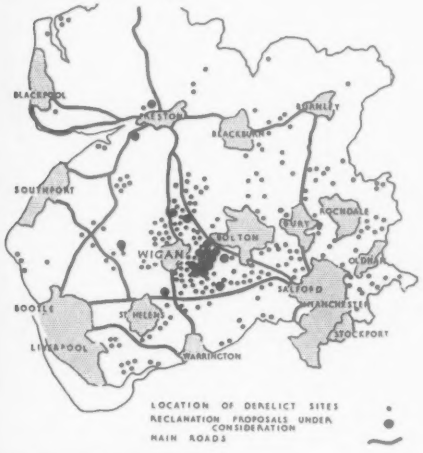
The priority for reclaiming land is given to urgent housing and school projects, followed by industry, where the aim is to revitalize stricken areas by bringing in new industries. Other sites are earmarked for public open space, agriculture and afforestation. As an instance of the scale of some of the projects now in progress, there is a 150-acre site on the outskirts of Manchester, once riverside parkland, which is now a scene of incredible desolation. This one site contains, in addition to a large, flooded subsidence flash and power station and council refuse tips, a worked-out sandpit, a sludge settlement tank, an abandoned colliery and an old sewage works seen against a towering backcloth of colliery tips 130 feet high. By agreements with the British Electricity Authority and the National Coal Board, the Planning Authority has arranged that all future tipping will be co-ordinated to an arranged plan and has thus ensured that within 20 years this dreary scene will become parkland and playing fields, with trees and grass growing in good soil built up from its own resources. Here, as in so many other parts of industrial England, there exists the opportunity to create out of chaos a fine new landscape; but to do this will demand the highest degree of skill in order to realize the inherent possibilities of each site. At present, these derelict areas are at least free from Subtopia and it will be necessary to ensure that when reclaimed they are not added to its territory by being loosely built over with meanly designed buildings.

When considering the appearance of the new landscape, it is important that hatred for traditional 'eyesores' should not blind the planners' eyes to the possibilities inherent in some of the forms produced by past industrial workings. In South Lancashire, for example, some of the colliery spoil tips are as much as 200 ft. high, finely shaped and often forming the only points of interest in an otherwise flat and uninteresting landscape. They give a sense of place and are local landmarks. Others, flat topped, break the monotony of an endless vista of slate roofs and mean housing and parcel the landscape into man-sized areas. It is not the tips that are evil but the squalor for miles around them; abandoned buildings, rusting machinery, rubbish, flooded and sour earth. It would be stupid to remove the tips only to plant screens of trees which would do the job less effectively. Rough grassed, they could look magnificent and would be valued as scenery were they ancient earthworks instead of tips. In addition many of the reed-edged lakes formed by subsidence and quarrying are very fine and should be retained in a future landscape. Already they are the haunt of extensive wild life and are much used for fishing and boating; to fill them all in would be miserably unimaginative. These are the accidental good things left by industry which should in many cases be retained and used.



the problem in Lancashire

The South Lancashire landscape is one of contrasts; on one hand the densely packed industrial towns, 3, on the other, only a few miles away, first-rate farm land, 4. Here, however, we are concerned with the 10,000 acres of derelict land which is neither one thing nor the other. East of Wigan (*see map*) the sites are so numerous that they overlap—mile upon mile of squalor, 5. These are areas that have become derelict sociologically as well as physically.



cause of dereliction

The main cause of dereliction here is coal-mining, the chief evidences being:—

subsidence of the land due to underground extraction of minerals leaving the land below drainage level, crumpled and unusable, 6. There is one area south of Leigh where sinking has resulted in as much as 160 acres being under water.

indiscriminate tipping where enormous areas are covered by colliery spoil tips; some conical, others flat-topped according to the method of tipping employed. The latter often stretch for half a mile or more from the pithead

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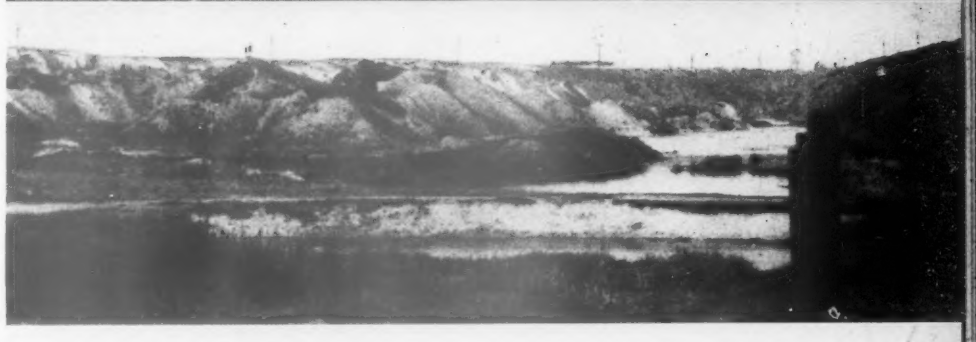

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burying useful land from which in the past the valuable topsoil has never been removed. They encroach on the farming land like a slow moving lava stream, 7.

Secondary evidences which increase the squalor are *rubbish dumps* not correlated to any programme of reclamation, as they should be, but planted haphazard, 8. Also shanty growths which spring up on every derelict site, 9.

what is being done?

A very praiseworthy drive is being made by the County Planning Authority to bring derelict land back into use and stop further dereliction. Much land is being reclaimed for housing, schools and factories, and also for public open spaces. For instance, at Agecroft, 10, a site of 150 acres north-west of Manchester, the tipping of power station ash (*right*) and colliery spoil (*left*), together with refuse, is now co-ordinated to a plan for the site's eventual return to parkland. At Skelmersdale, 11, colliery tips are being graded down for badly needed playing fields adjacent to a new housing estate, thus saving the farm-land opposite. Extensive experiments have been made in tree planting, 12, and grass growing on tips, and cows now graze in a large field, 13, which a few months ago was a waste of colliery spoil.

visual assets

Making a new landscape is much more than just engineering and some of the traditional 'eyesores' can have value as features worth incorporating in it.

For instance:—

spoil tips are generally regarded as blots on the scene which, if humanly

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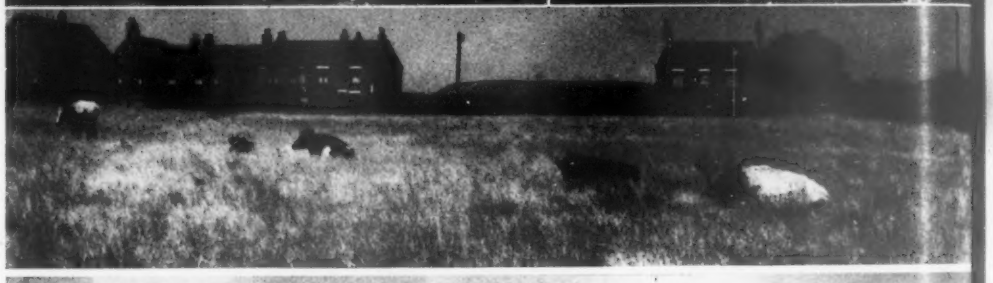

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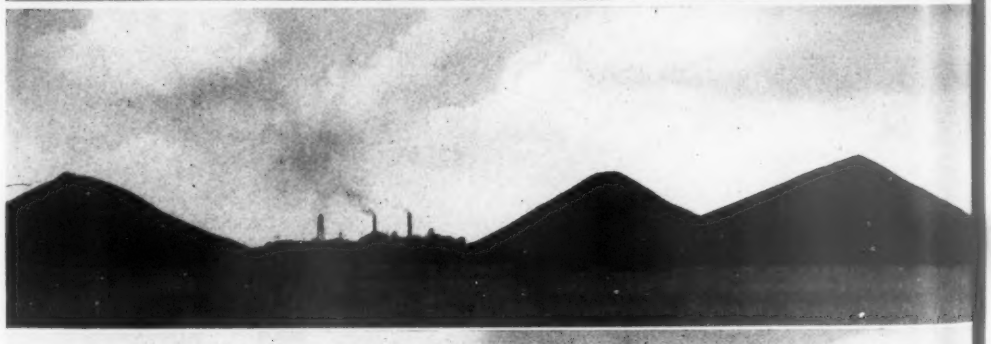

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16

possible, should be removed or, failing that, camouflaged by trees. These tips vary in size and shape considerably and some of the larger conical tips, as much as 200 feet high, give a sense of place and have real value as *landmarks* in an otherwise flat and rather uninteresting panorama. 'The Three Sisters,' for instance, 14, 15, can be seen for many miles around Wigan and to remove them, even if economically possible, would be a loss to the landscape. There is surely a case for accepting many of the finely shaped tips and leaving them rough grassed with perhaps trees massed at the base, 14, rather than smudging their shape with all-over afforestation.

The spoil tips also perform the service of masking inhuman vistas of endless streets of identical housing, 16, and parcelling the landscape into man-sized areas.

lakes are often formed in worked-out quarries and subsidence flashes, 17, and some of these have a beauty well worth retaining, a beauty it would be hard to attain with purpose-made ponds. They are already the haunt of heron, swans and gulls and, despite the squalor all round, they are used extensively as recreational areas by the local inhabitants for walking, fishing and boating. It would be very short-sighted to fill in all subsidence lakes on principle.

sculpture in the landscape Mining and quarrying activities have left a considerable amount of accidental rock sculpture, 18–19, which adds considerable drama to a too flat landscape and should be allowed to continue to do so. Whilst it is essential that the waste land be reclaimed there is a danger in over spring-cleaning and throwing away. Obviously one doesn't leave it all but a discerning eye should be kept on the scenic possibilities.

17

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a derelict site examined

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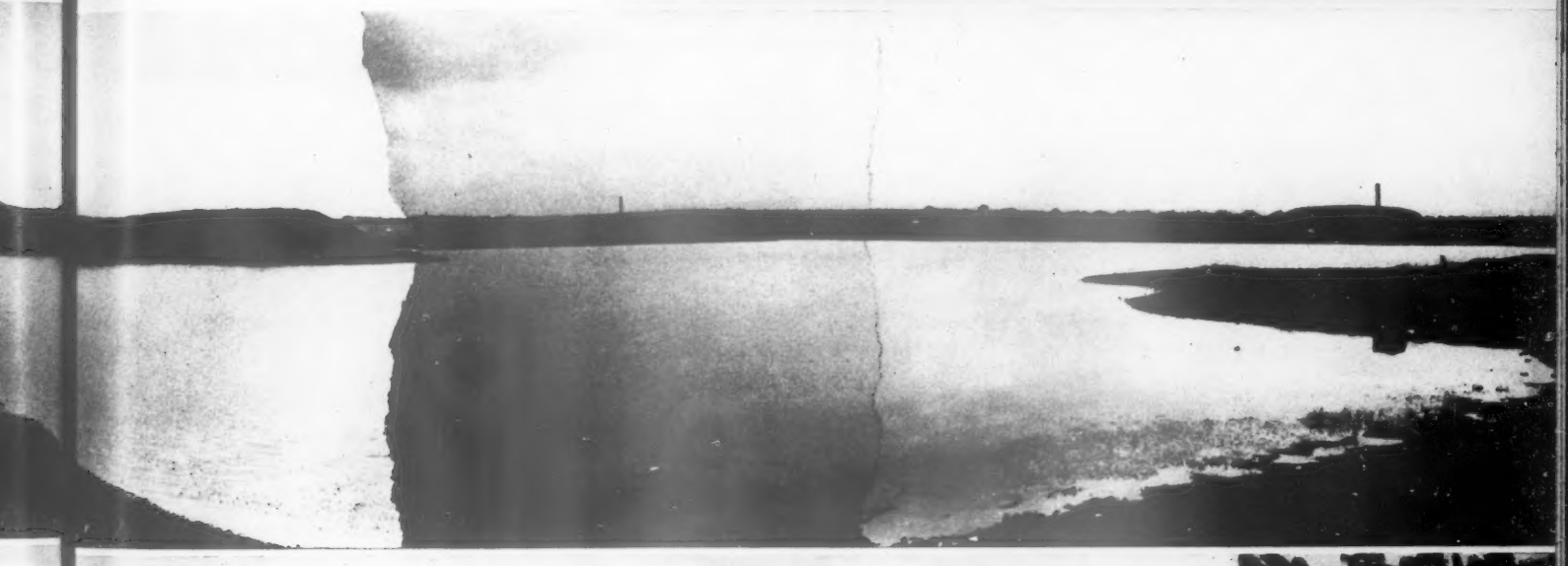
At Leigh, between Wigan and Manchester, there is a large piece of waste land, 400 acres or so, which lends itself to the creation of park and farmland, with the previous agricultural land on the site re-established. It is used a lot now for recreation, but most of it is sunken, boggy and rubbish-strewn. The focal point of a new landscape here could be the conical colliery tip with its promontory jutting out into the large existing lake, 20. The area should be kept free of buildings other than those for farms and recreation and it should form a complete contrast to the closely built housing and textile mills which adjoin the site. The distant flat-topped tips on the left, planted, would mark the

22

23

boundary of the park. Deciduous trees should be introduced, not to cover the conical tip, but to act as a foil to it, 21, and to screen the distant housing. They would be planted to act as windbreaks to the farmland and in hedgerows and copses, and thereby step up the trees in a vastly underwooded part of the county. The site already shows the making of an interesting landscape, 22, and 23, by means of drawings superimposed on the same photograph, shows how. With reclamation of the sunken ground by controlled tipping (but leaving the lake), by tree planting, and by the introduction of boathouses and a jetty, and possibly an artificial island, this could be made into a fine park. It is only one of many such large sites which could be used to provide lungs to the industrial areas, where they are so badly needed.

21



Opposite photograph above, a progress of the space-frame erected and ready to receive the aerated concrete roof slabs. Below, an air view of the model from the east.

LABORATORIES AT RANGOON

ARCHITECTS | **JAMES CUBITT & PARTNERS**

This project for pharmaceutical laboratories is in the new industrial zone north of Rangoon; buildings and engineering services (except the manufacturing plant) should be complete by the autumn of 1956. The site of 140 acres was chosen, despite difficult subsoil conditions, as it was level, having formerly been paddy fields, and is near both to Rangoon, thus providing good transport facilities, and to the Hlaing river for the discharge of effluent. The industry is divided into three main sections: the main pharmaceutical production building, the alcohol and yeast vitamin plant, and the biological institute; in addition to these there are the administration block, canteen and cloakroom facilities, and service and workshop buildings.

Owing to the scarcity of skilled building labour in Burma, factory-made building elements and dry pre-cast construction have been extensively used, resulting in very rapid erection above slab level—an important factor where building operations are affected by monsoon rains for nearly half the year.

It was found most suitable to provide a single building for all the production processes. The plan provides a central trucking corridor with storage for raw materials, bulk packing and despatch on one side of it and the production departments on the other. In the storage half of the building there is complete flexibility of floor space, the unloading bays covering about two-thirds of the length of the building. The production side constitutes a totally air-conditioned envelope, within which there is almost complete flexibility of movement, the exception being the drug grinding tower, providing the gravity feed to the tincture department immediately below it on the ground floor.

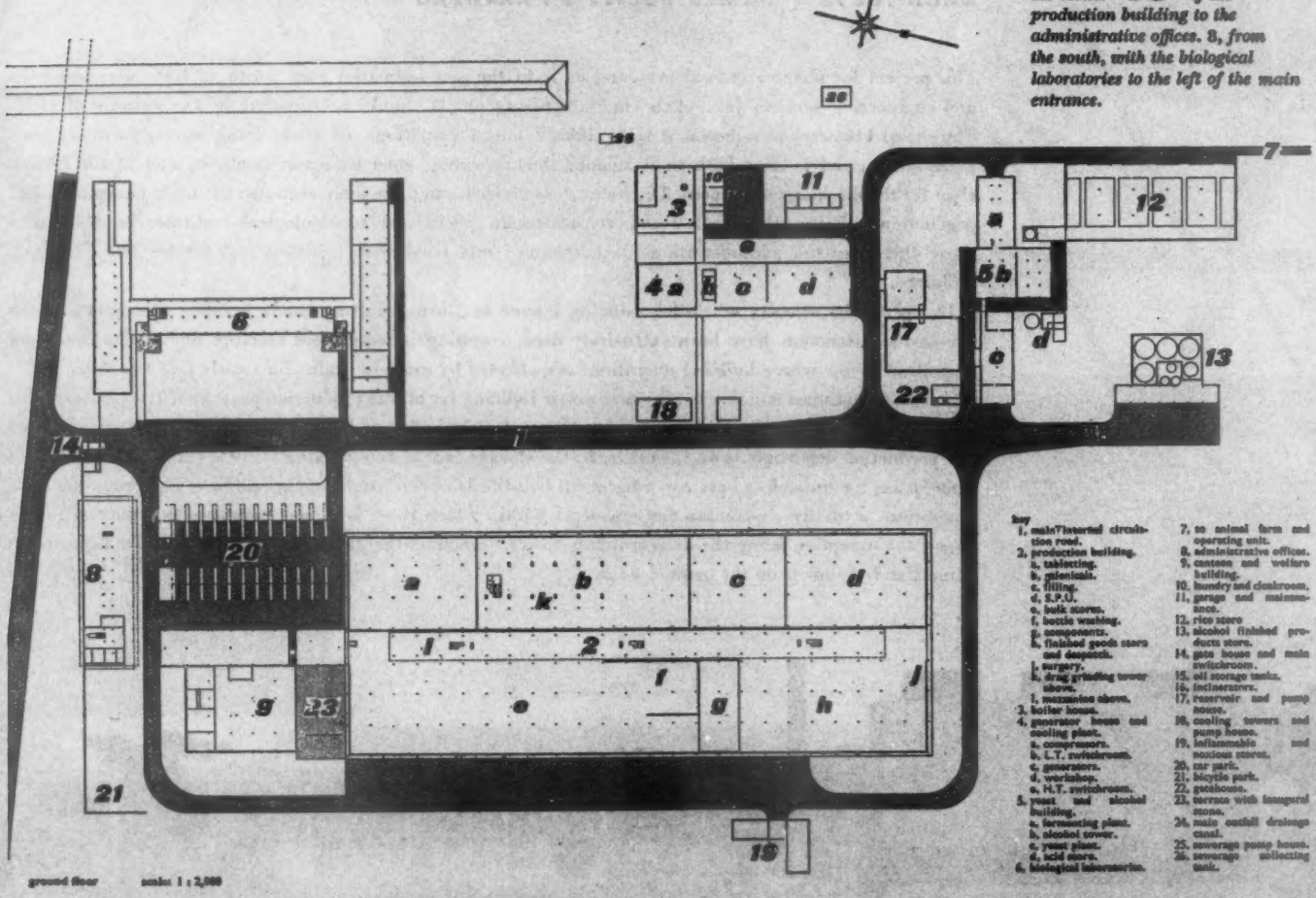
1, pump house and generator house from the east.

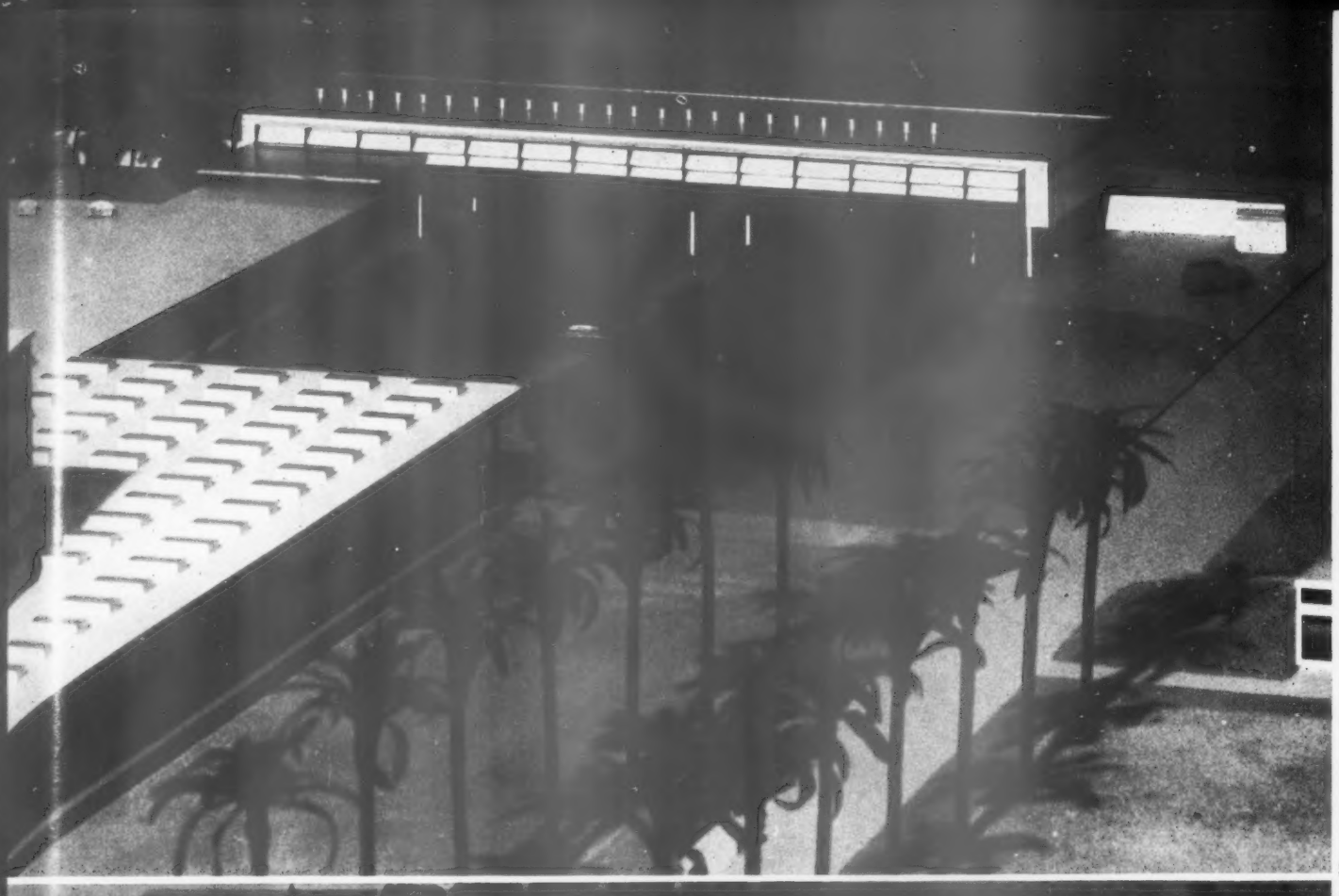
The structural system is a space frame built up on the site from prefabricated units in the form of inverted pyramids. The deck so created is supported on a column grid 32 feet by 24 feet. A complete bay of the roof is built up on the ground and hoisted into position by mobile crane; the boss of each unit provides a threaded fixing for either partitions or the suspension of conveyors, etc. Individual units measure 4 feet square in plan. Each unit receives a precast waterproof aerated concrete slab, which is covered with a 4 in. screed of mortar and a membrane. Finally the whole roof is covered with solar slabs of the same lightweight aerated concrete. The ceiling is formed by 4-foot square asbestos sheets clipped to the tension members of the space frames. The building is clad externally with an aluminium and fibre glass sandwich. A horizontal strip window is provided at eye level, glazed with non-actinic glass. The mezzanine of the central trucking core is clad with power-operated louvres, filled with laminated fibre glass sheets. Roof lights at frequent centres, shielded by non-actinic laminated fibre glass sheets, provide glare-free diffused lighting at working level. The lay lights under the roof lights have been offset by some 6 feet to avoid direct sun penetration.

The drug grinding tower is of reinforced concrete, owing to the extremely heavy loading; as it has been calculated that differential settlement between this and the surrounding single-storeyed structure will amount to 7½ inches over 50 years, the feet of the glazing mullions around the base of the tower have therefore been designed to slide into grease-packed shoes. The superstructure of the tower is clad with asbestos and laminated fibre glass. The alcohol production plant will manufacture alcohol from damaged and broken rice. The alcohol tower constitutes a straightforward steel frame clad with asbestos and laminated fibre glass. The yeast fermentation buildings are placed on two sides of the tower, as the yeast production process is closely allied to the manufacture of alcohol. The biological institute consists of laboratories, animal farm and operating unit; the structure is designed in pre-cast concrete units, with curtain walling protected by continuous sunbreakers. The administration building is raised on pilotis, which allows for a shaded car-park, lavatories and air-conditioning plant room underneath. The structure is similar to that of the biological institute.

Some 725,000 cubic feet of space will be air-conditioned, and 15 air-conditioning plants will be installed, together with numerous individual room cooler units. A central mechanical refrigeration plant of 890 tons capacity will serve the cooling equipment. A triple cooling tower capable of handling 198,000 gallons per hour will provide cooling water for process purposes and for refrigeration plant condensers.

2, opposite the corner looking past of the production building to the administrative offices. 3, from the south, with the biological laboratories to the left of the main entrance.





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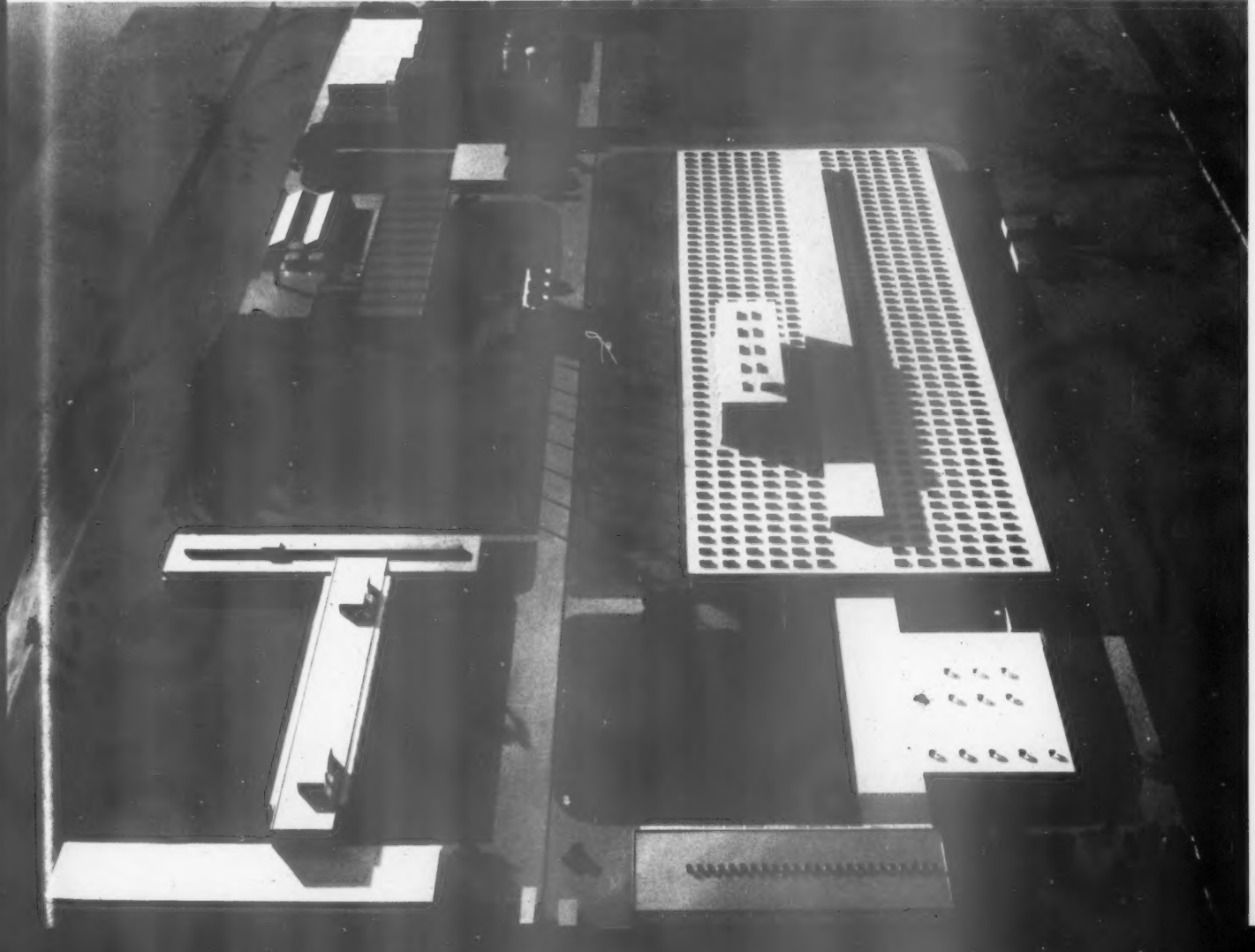

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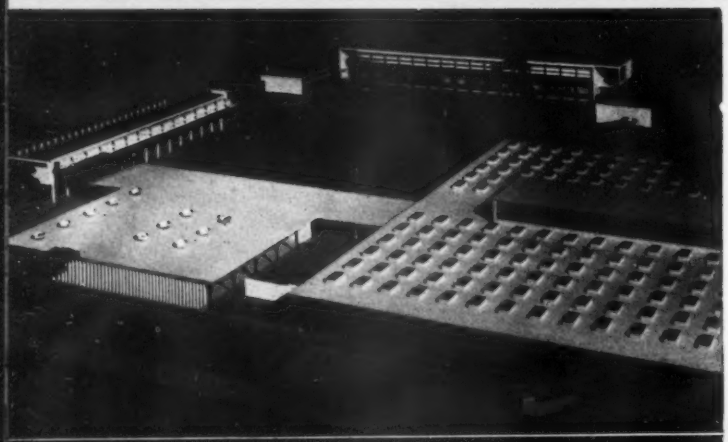

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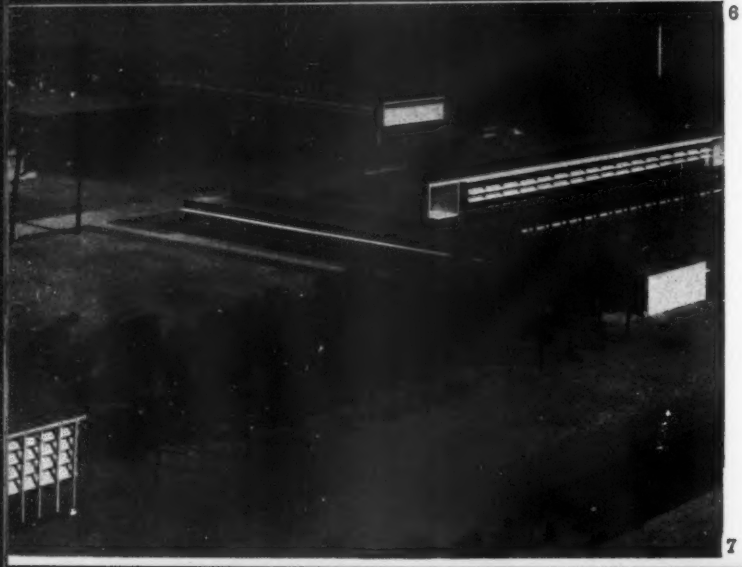

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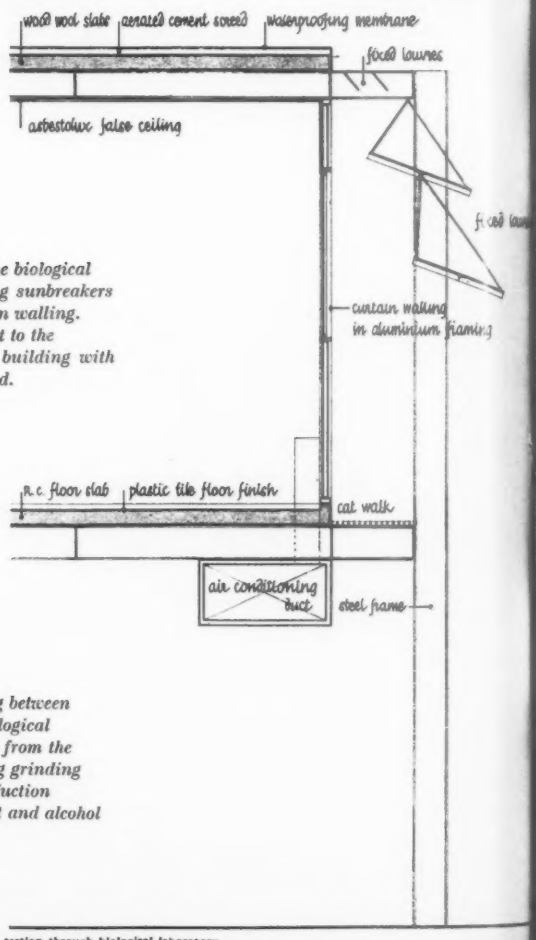
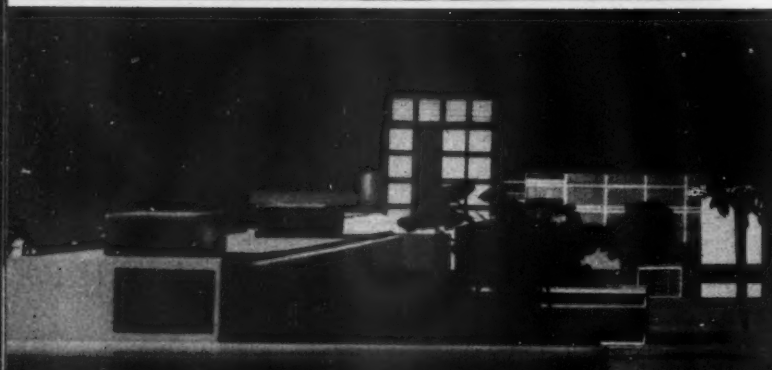
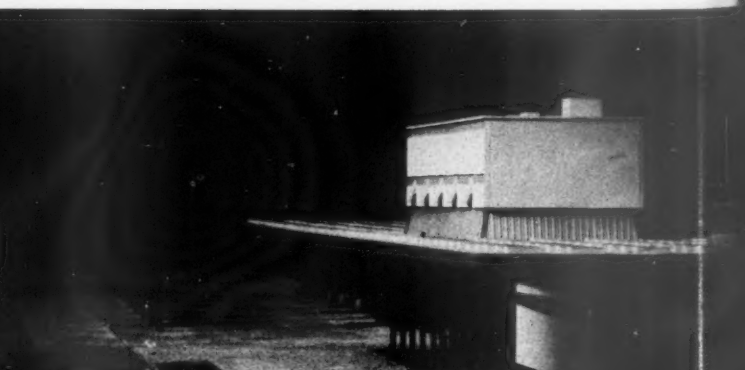
4, the west side of the biological laboratories, showing sunbreakers protecting the curtain walling.
5, looking south-west to the canteen and welfare building with admin. offices beyond.



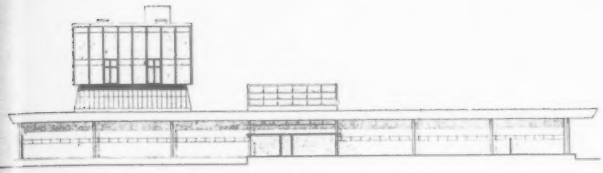
6, proposed planting between boiler house and biological laboratories. 7, view from the main gate, with drug grinding tower above the production building on the right and alcohol tower on the left.

section through biological laboratory.

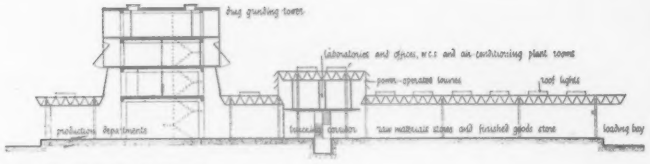




LABORATORIES AT RANGOON



south elevation of production building.



section through production building.

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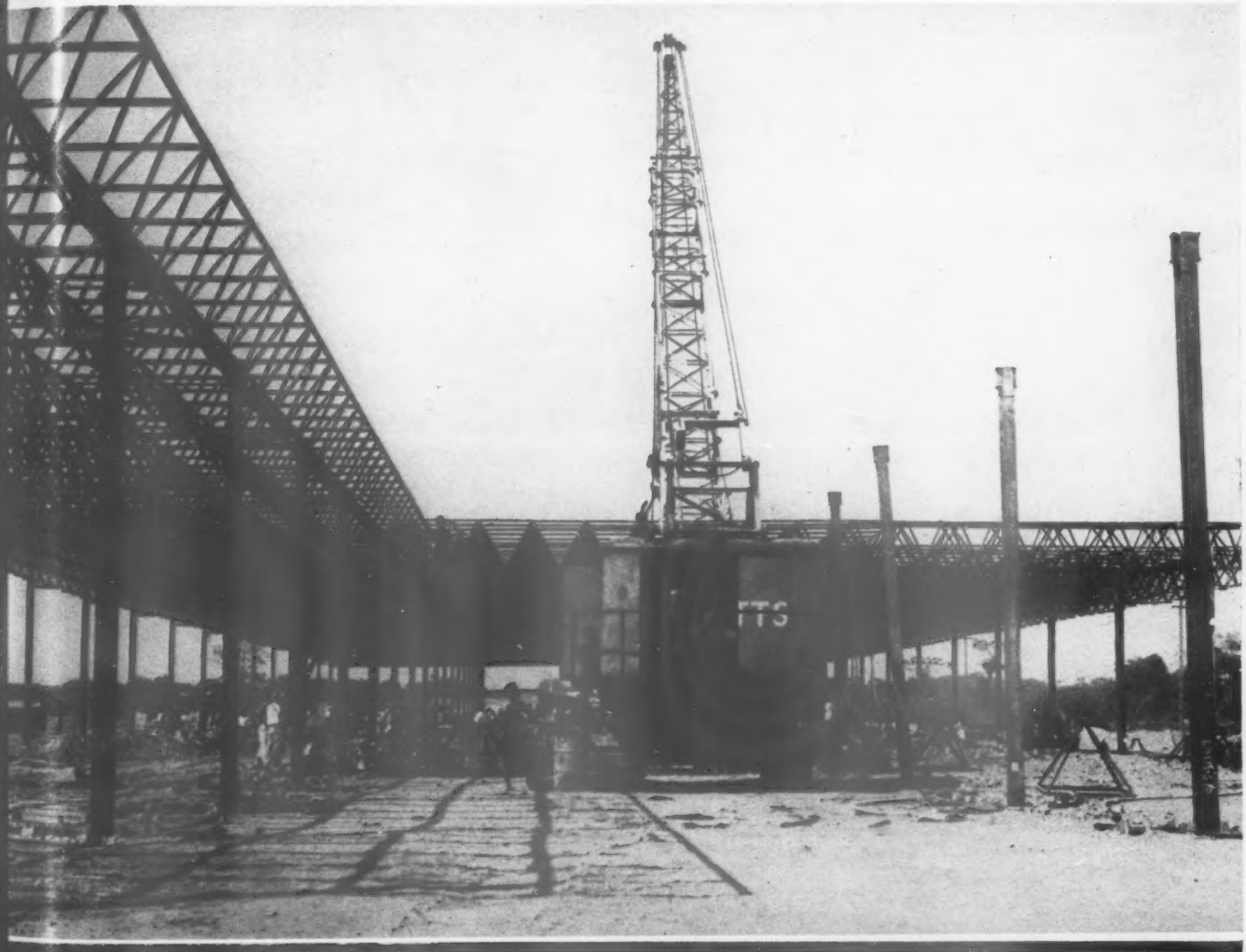
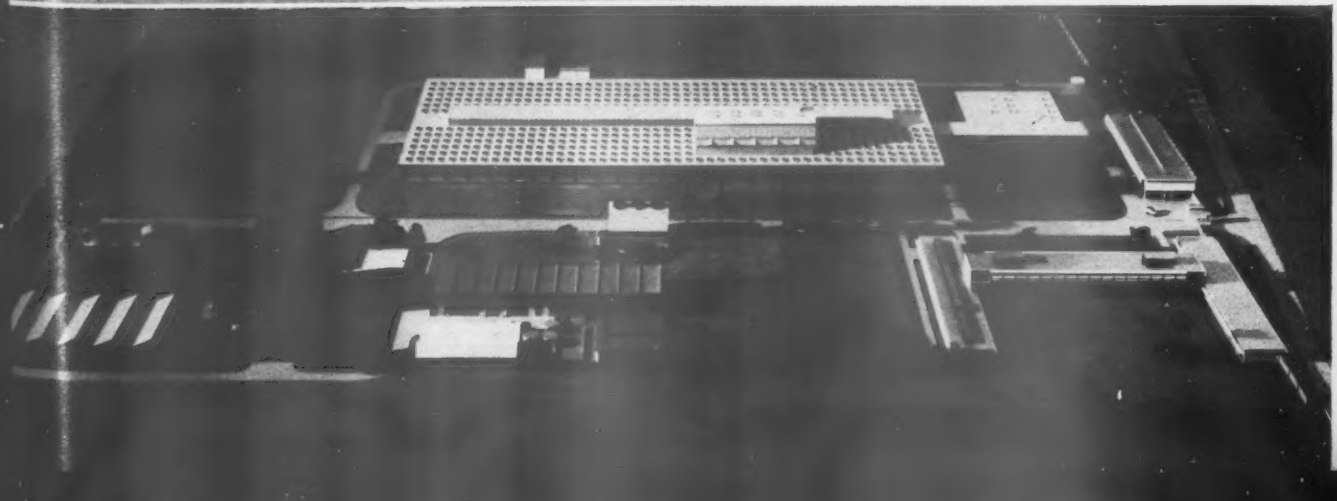
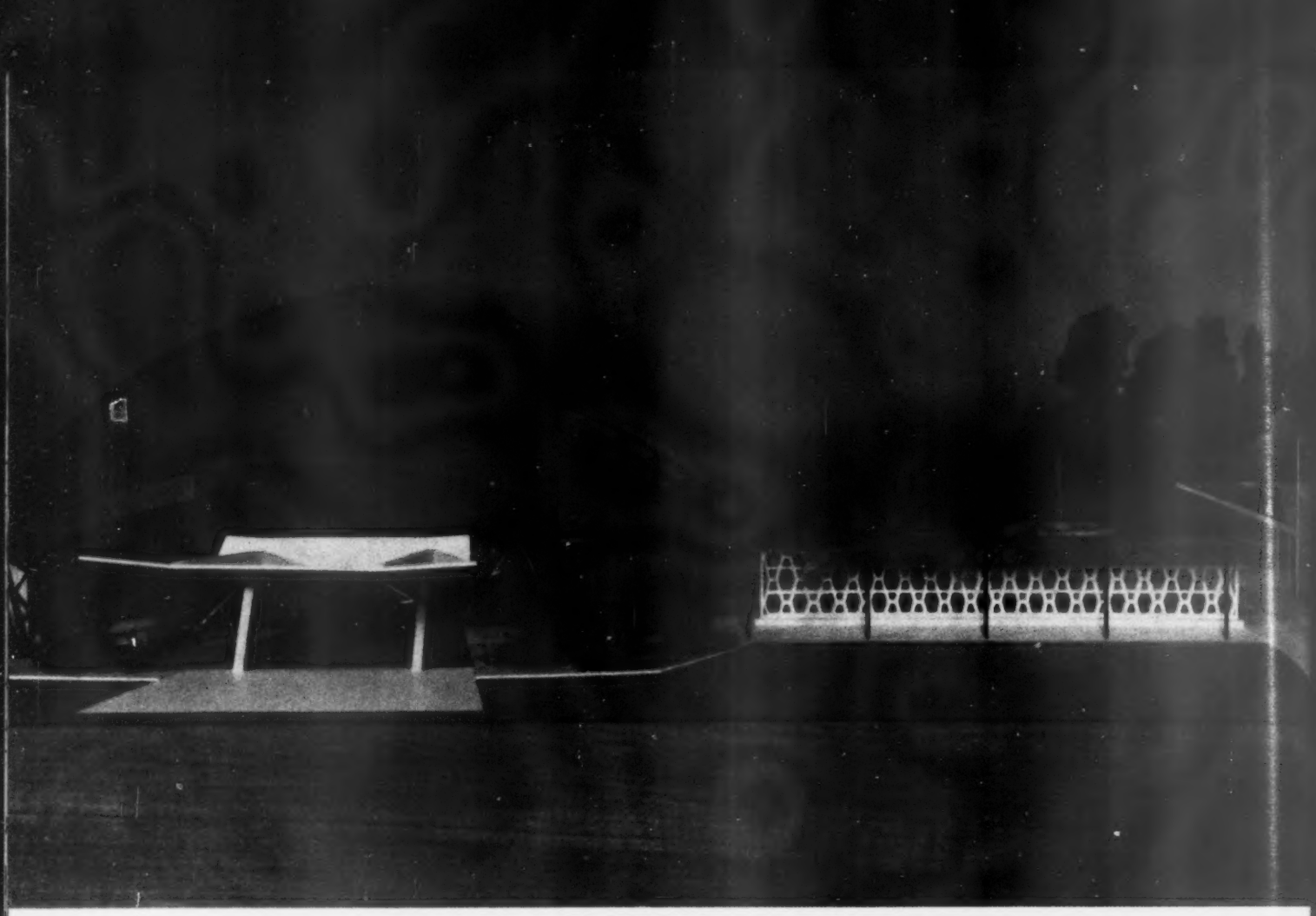
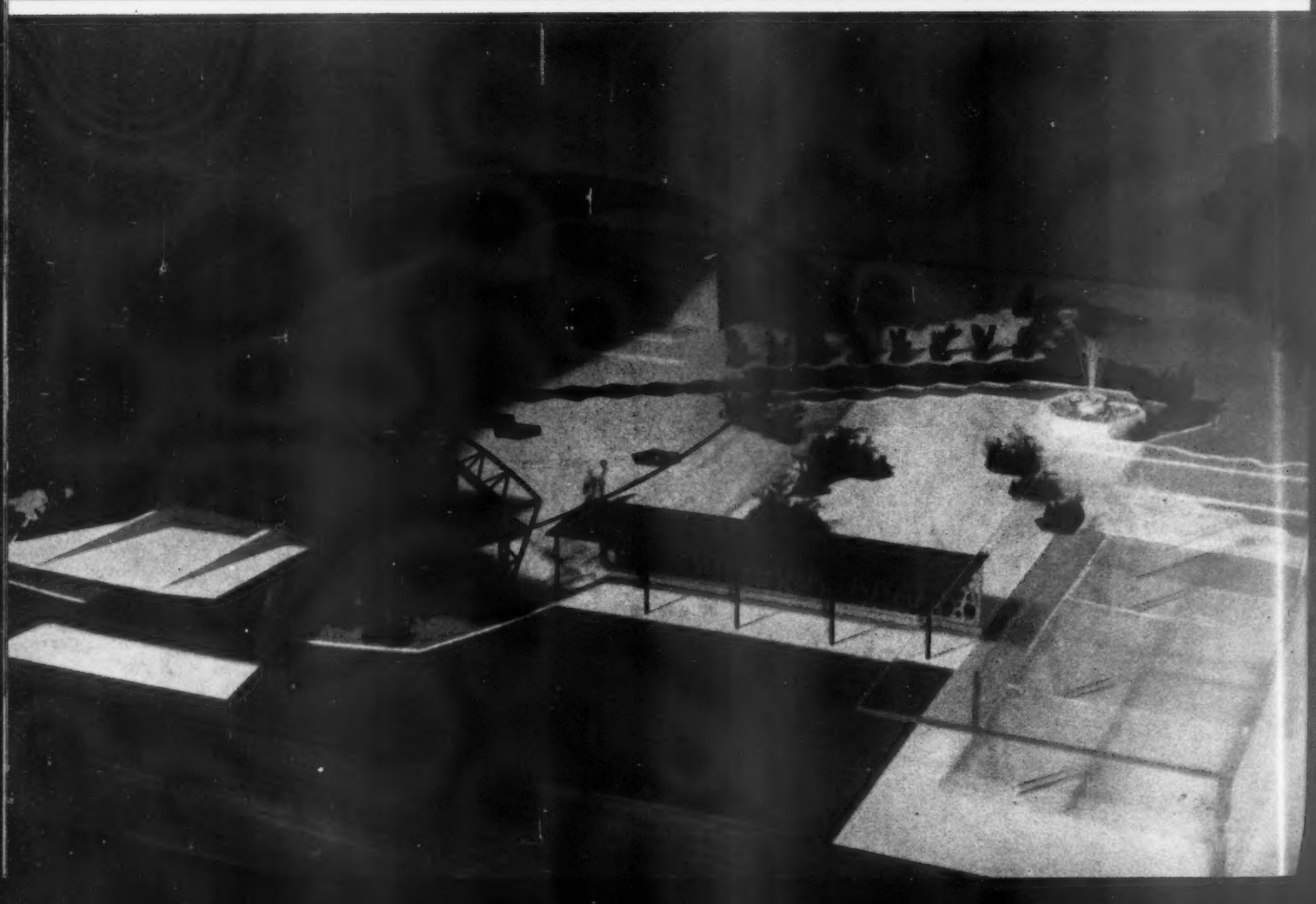
9

8, production building under construction. 9, *the whole scheme from the west.*



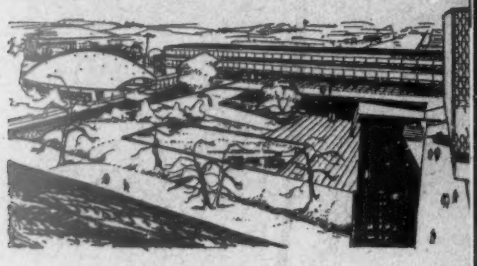






A turtle-shell dome laminated from boards of native teak, and carried on two portal-frame trusses of welded steel tubing forms the main structure—indeed, almost the whole structure—of the new assembly hall for engineering and architecture students of the University of Rangoon, designed by Raglan Squire. The model, opposite ☞, with part of the dome rendered transparent, shows the relation of the sheltering shell to the entrance and stage structures, and to the open court which adjoins it.

1, forecourt, showing relationship of assembly hall to mechanical engineering block.

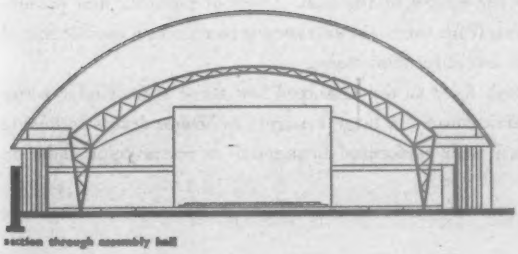


ASSEMBLY HALL AT RANGOON

ARCHITECTS	***RAGLAN SQUIRE AND PARTNERS***
Assistant Architect	***R. B. Roberts***

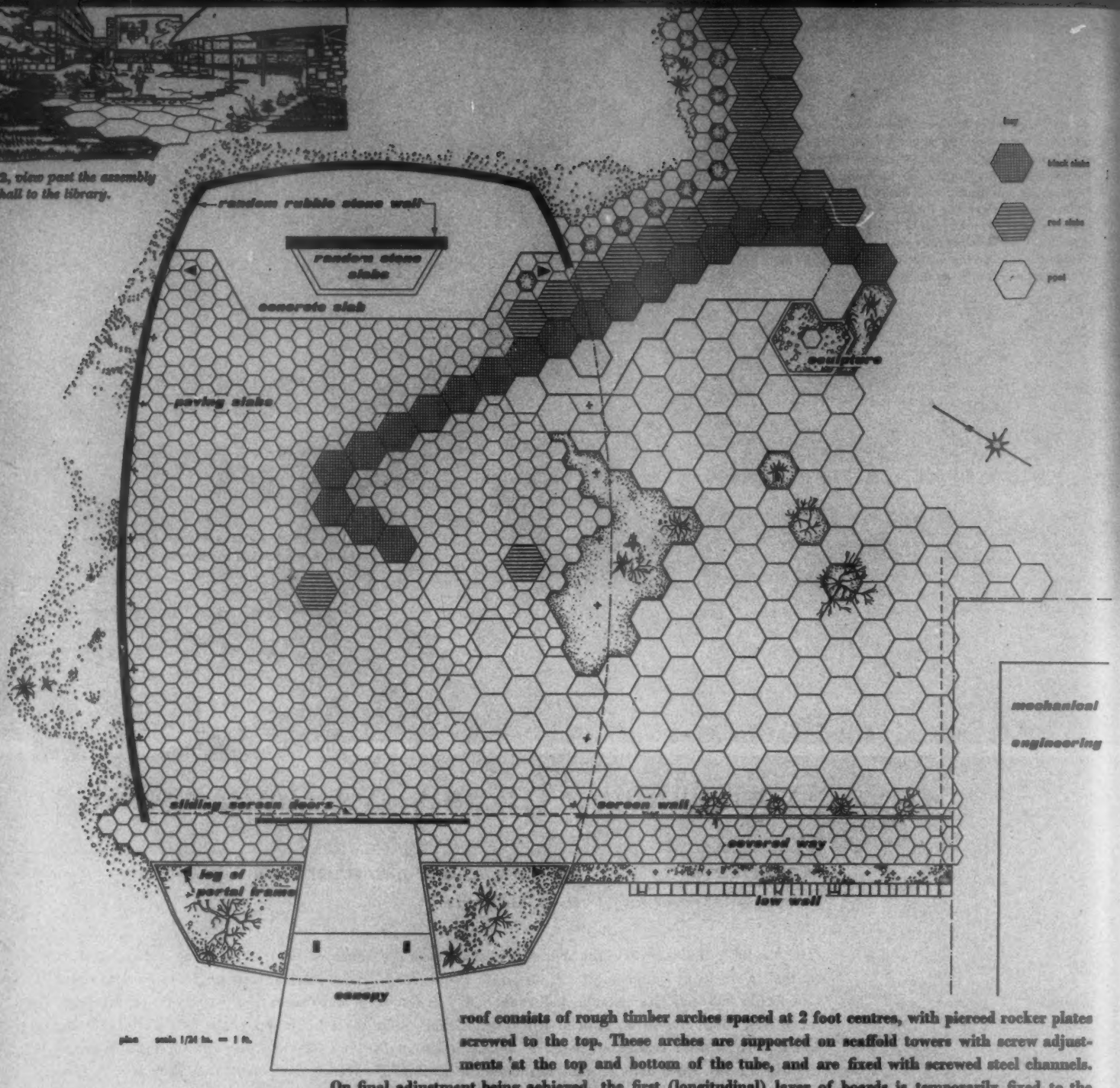
The Assembly Hall is to serve the 800 to 1,000 students of the future college of engineering and architecture at the University of Rangoon. The site is on the Prome road 7 miles outside Rangoon, and measures about 400 feet by 900 feet. This assembly hall could be expected to fulfil many uses: theatricals, political meetings, addresses, social functions, most of which traditionally take place in the open, the only covering being a simple truss roof carried on posts, of sufficient extent to ward off the direct rays of the sun or the monsoon rains. Rush mats or grass is the normal method of covering such structures. Deep overhanging eaves give additional protection. This entirely functional vernacular structure became the prototype of the Assembly Hall of the College.

It was decided that the main fabric of the canopy should be formed from materials indigenous to Burma, both for economy and to coalesce with the surroundings. Burma teak was selected. Detail design is based on a total of five layers of 4 inch teak boards, the bottom layer being $\frac{7}{8}$ inch thick and the subsequent four layers being $\frac{5}{8}$ inch each. A total thickness of $3\frac{1}{2}$ inch will be constant throughout. A series of steel posts at 12 feet 5 inch centres will be placed along each side of the canopy and two laminated timber tension beams (12 inches by 9 inches by 111 feet 8 inches) will be inserted on each side, 2 feet 3 inches in from the edge. The Assembly Hall must be capable of being locked up at night : a 7 foot 8 inch high stone wall protects it from the Prome road and continues round the stage end, clear of the eaves. Removable light timber screens will be provided on the inner side, based on the principle of the 'up and over' garage door and operated by counter-weights sunk in concrete manholes. The entrance to the hall will be sealed in the same way. The two portal frames, 111 feet 8 inches apart, are to be constructed of welded steel tubes. These frames, of triangular section, taper down to a hexagonal base plate and terminate in a steel rocker-joint. Temporary framework for the construction of the



section through assembly hall

2, view past the assembly hall to the library.



plan scale 1/24 in. = 1 ft.

roof consists of rough timber arches spaced at 2 foot centres, with pierced rocker plates screwed to the top. These arches are supported on scaffold towers with screw adjustments at the top and bottom of the tube, and are fixed with screwed steel channels. On final adjustment being achieved, the first (longitudinal) layer of boards is temporarily fixed to the rocker-plates from the underside by means of screws. This completed, the second (diagonal) layer is placed in position, glued and screwed; layers three, four and five are fixed in the same way. When all five layers are fixed, the holes for the roof light are cut, and the laminated ring containing the light is inserted in the hole and fixed. The top layer of boards is to be finished with a wood preservative.

The ground plan of the hall is based on a hexagonal grid of concrete slabs of two sizes. The large slabs are concentrated in the uncovered and the small in the covered area, the two types interlocking around the perimeter of the shell. The main student path into the hall is emphasized by the pool and sculpture group and the large black and red slabs which lead into the centre of the hall. Areas of planting and pebbles create space divisions. The large wall forming a screen from the main entrance is to receive a mosaic mural based on the geometry of the canopy. All other walls are of random stone.

Artificial lighting is produced from a timber trough fixed to the L-shaped low stone wall. Under-water lighting is provided in the pool. Surface water is carried away in large concrete monsoon drains following the perimeter of the roof. These drains are covered with perforated hexagonal or rectangular slabs on which hardcore and pebbles are laid.

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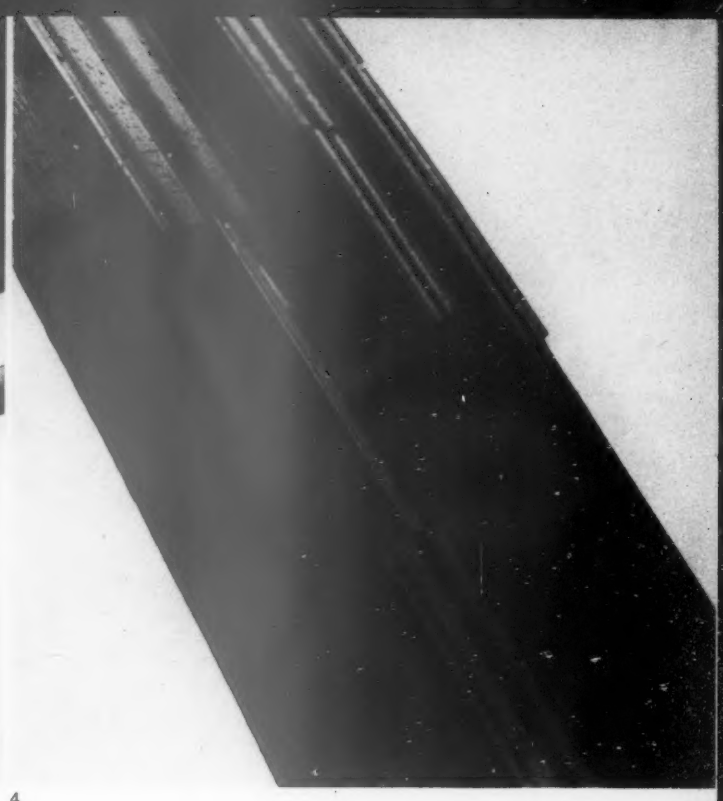

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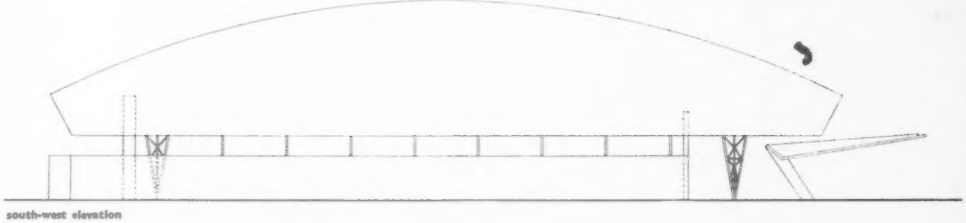
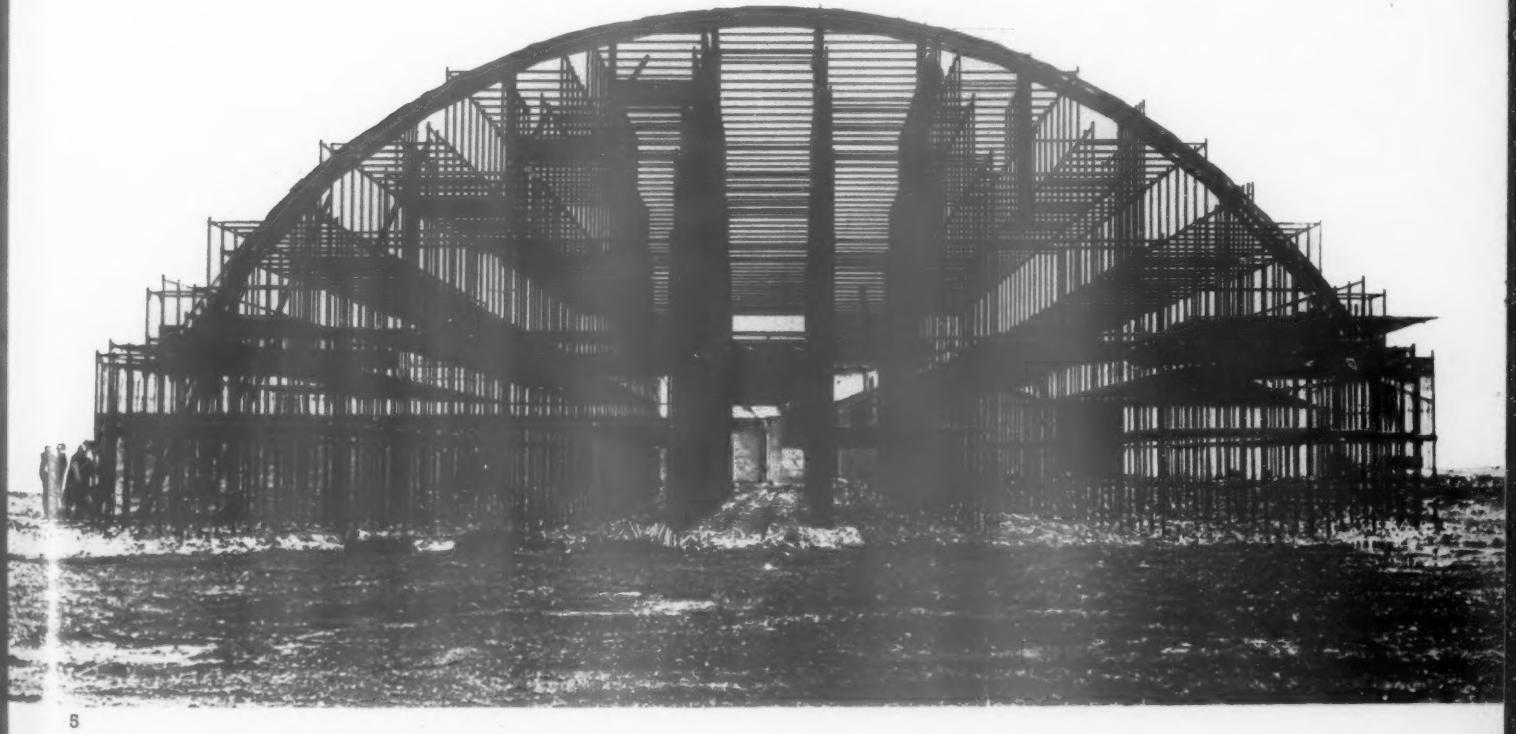
3, detail of the arches, supported on scaffolding, which provide the formwork for the turtle-shaped, laminated wood dome during its erection. 4, upper view of one of the arches, showing pierced rocker-plates screwed down for reception of the first layer of boards.

ASSEMBLY HALL AT RANGOON

5, general view of the scaffolding, which has screw adjustment at the top and bottom of the tubes.



south-west elevation



5

current architecture

recent buildings of interest briefly illustrated.

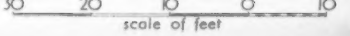
HOUSE AT ESHER, SURREY

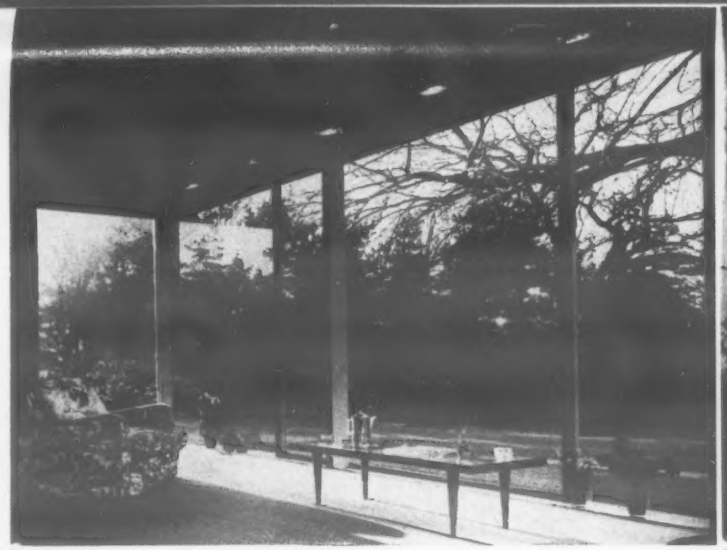
ARCHITECTS, DEVEREUX AND DAVIES

ASSISTANT ARCHITECT, R. W. TREBILCOCK

The site of the building at New Road, Esher, is enclosed with matured trees and park shrubs, and a small natural lake is its main feature. The rear of the building is placed along the open boundary south of the site. Consequently the house has as its main aspect a view to the north under the trees to the lake. The house has a single storey. A sliding wall between the living and dining rooms slides into a recess formed in the living room wall. The whole north wall of the living room and study, towards the garden, is glazed from floor to ceiling, one section sliding open. The west wall of the dining room is similarly glazed and incorporates a bay window for plants. The bedroom wing with the two bathrooms is built along the south boundary of the site and forms a small courtyard with the living room wing. The brickwork is painted white and the vertical boarding is varnished cedar. The external woodwork is painted blue-grey and lemon yellow. The 11 inch cavity walls have 4½ inch breeze linings. 2 inch woodwool slabs are used as an insulated backing to the 4 inch by 3 inch timber framed walls which are lined

1, *the living room from the north.*





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3

House at Esher

with felt and covered externally with moulded cedar boarding. The roof is constructed with built up timber trusses and covered with metal roof decking, ½ inch insulation board and 3-ply mineral surfaced roofing felt coloured green.

A system of heating by hot air obviates the difficulty of arranging radiators and pipe runs near the large glass areas. The hot air is ducted through the floor and returned in the roof space to the heating units which are oil fired and controlled by room thermostats.

2, the view north-west to the lake from the living room. 3, the dining room with bay window for plants on the right.

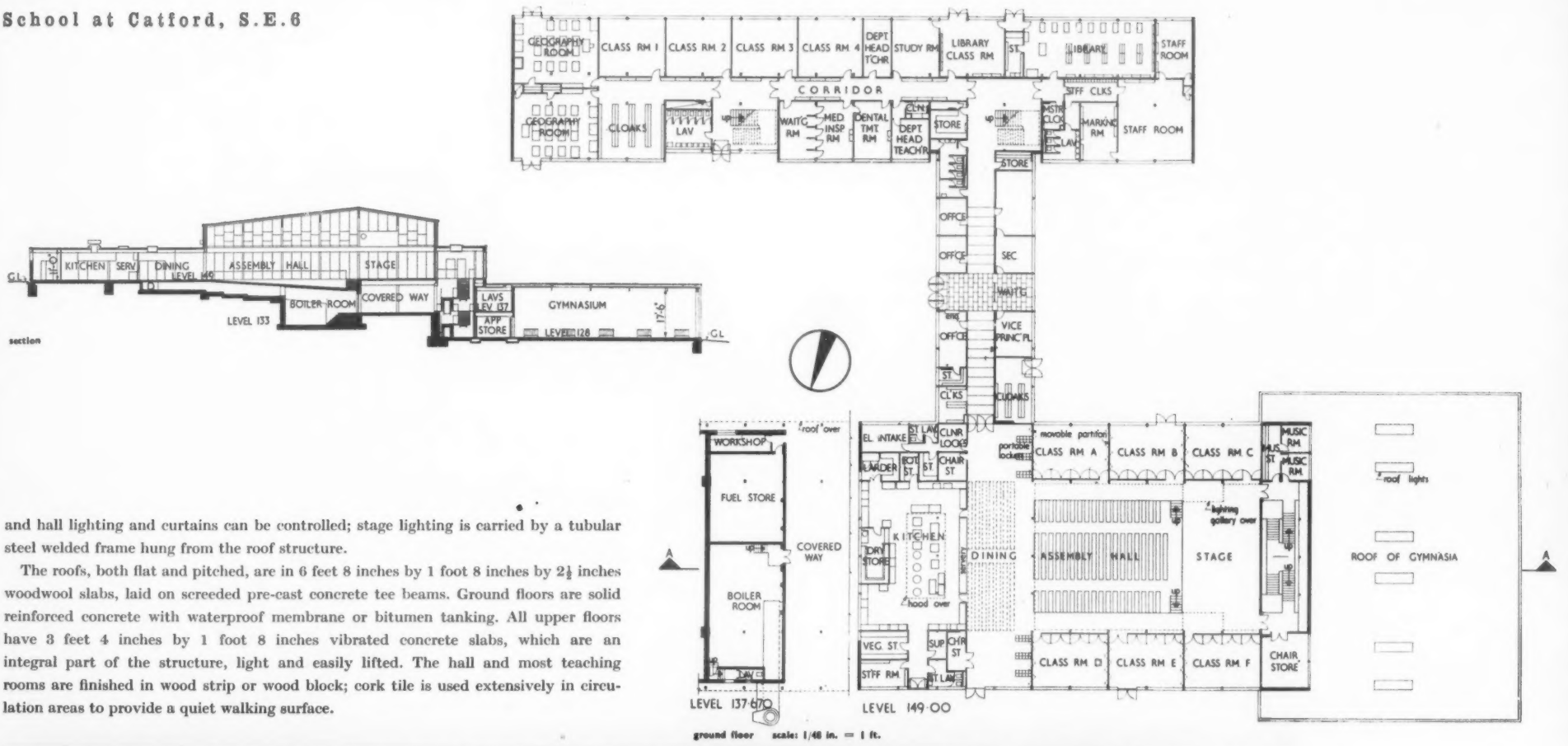
SCHOOL AT CATFORD, S.E.6

ARCHITECT TO THE L.C.C.: J. L. MARTIN
ARCHITECT-IN-CHARGE: W. J. SMITH

This is a county secondary school for 1,190 girls on land formerly used for allotments between Bellingham Road and Conisborough Crescent. It is sited on fairly high ground, sloping sharply from east to west. Tarred playing areas, and a large paved playing courtyard at the east end, are provided. The school consists of two linked blocks: the four-storey teaching block containing repetitive classroom units and a large-span, single-storey assembly hall and gymnasium using the sloping site. The link block contains the entrance and some staff rooms. A light, prefabricated modular steel frame is used throughout, and finished externally with glass curtain walling. The vertical cladding bars are at 40-inch centres and opening lights can be placed where required; the rows of panels between windows are glass-faced. In the classroom block, to guard against possible spread of fire to the staircases from adjoining accommodation, the curtain wall glazing was recessed by 40 inches from the general face. The reveals thus formed are in brickwork rendered and painted black. The end walls of the block have solid cladding. In the assembly block a pitched roof covers the hall itself and, around it, flat low-level roofs cover three teaching spaces on either side, music rooms and a staircase down to the gymnasium. Sliding folded partitions between the teaching spaces can be folded back to form two rooms or one large room; similarly the screens dividing them off from the hall can be opened up. On either side of the stage is a 'flybox' from which stage

4, the teaching block from the north-east.

School at Catford, S.E.6



and hall lighting and curtains can be controlled; stage lighting is carried by a tubular steel welded frame hung from the roof structure.

The roofs, both flat and pitched, are in 6 feet 8 inches by 1 foot 8 inches by 2½ inches woodwool slabs, laid on screeded pre-cast concrete tee beams. Ground floors are solid reinforced concrete with waterproof membrane or bitumen tanking. All upper floors have 3 feet 4 inches by 1 foot 8 inches vibrated concrete slabs, which are an integral part of the structure, light and easily lifted. The hall and most teaching rooms are finished in wood strip or wood block; cork tile is used extensively in circulation areas to provide a quiet walking surface.

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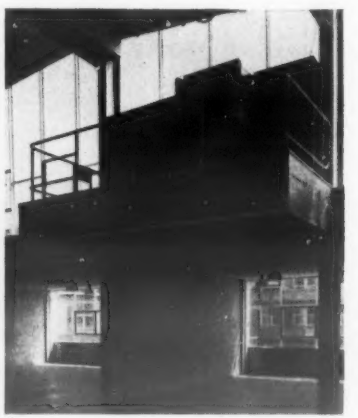

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5, the school from the south-west, with gymnasia on the left.
6, one of the flyboxes controlling stage lighting in the assembly hall.

EXHIBITIONS

THE DRAWINGS OF BRUNO CARUSO

The poet Leonardo Sinisgalli has, with some justice, commended Bruno Caruso for imposing conscience on his designs without resorting to symbols and allegories, but in associating this moral victory with an avoidance of the automatic line he has neatly suppressed the factor that puts Caruso's conscience on the alert. If Caruso's drawings manage to appear before us as little models of clarity and moderation it is not because he has avoided automatism; very few graphic artists have allowed it more play.

It is true that the unimpeded graphic impulse usually projects a line that turns and twists like a demented spiral and never wants to stop wriggling, but it has other resources, and in the case of Caruso exhibits its prim side. His successions of punctiliously straight lines, which rarely take account of contour and terminate only because the margins of the paper call a halt, are far from registering a protest against the dictates of the unconscious, and all the beauty of these drawings springs from the self-assertiveness of an elemental linear faculty. Caruso would be outside the creative ferment of our time if he obliged his line to serve a preconceived purpose, or attempted to camouflage the naïve repetitiousness that sustains the creative impulse.

The cartoonist George Grosz attributes the neatness and the overlapping images of his early drawings to heredity, finding an intimate precedent for his attachment to interlace in the baskets woven by his grandfather. By the same token, there may well have been cord makers in Caruso's family, like those whose handiwork, pegged out in a taut multiplicity of lines on Sicilian beaches, is celebrated in some of his loveliest drawings: but the autobiographical note that he has sent to the Arthur Jeffress Gallery, where he is holding his first London exhibition, tells us only that he is twenty-eight years old and has lived in Palermo all his life, and that he edits a magazine called 'Sicilia.'

He has been influenced by the graphic

1, Newspaper Kiosk, *1962.*

technique of Vespignani, and shares his interest in the public furniture of towns, but the spirit of his work is closer to Klee's angular labyrinths, and those classic examples of *frottage* which constitute Max Ernst's *La Histoire Naturelle*. Klee and Ernst, however, took a line for a walk or translated rubbings obtained from the veins of leaves with the object of discovering new worlds: Caruso on the other hand, recognizes manifestations of his innate line in the streets, parks and warehouses of an actual town, and his best drawings disclose something in the nature of a spontaneous collaboration between a pure psychic construction and a stock pile of sawn boards or the cages of a zoo or the configuration of overhead wires at a tramway terminal.

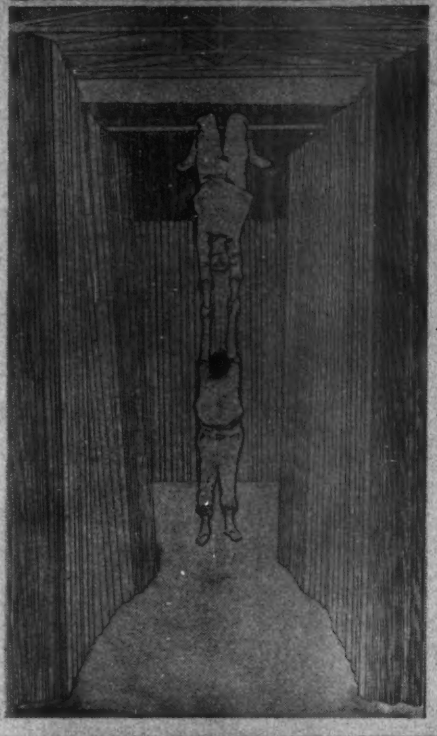
This *rapport* with a few strictly limited aspects of his environment gives his work its peculiar air of mysterious familiarity, and accounts for the weird omissions, the stillness and silence of his version of reality. It also explains the dearth of animals in his zoo, for the objects in his drawings are only hallucinatory images thrown up by the activity of straight lines, and in this respect the faintly adumbrated plants which mingle with his interpenetrating oblongs of vertical wires are unforgivable intrusions, which almost reduce these otherwise exquisite drawings to the facetious unreality of the average architect's fancy representation of a project.

His line does not proliferate. It stops. Then another, indistinguishable from the first, is added, and another and another, and as the drawing proceeds elation or a quiet hysteria is begotten of the patience. His drawings of timber stocks are his most powerful works because in these his regiments of lines meet with no obstruction whatsoever until the edge of the paper comes in view. They are fascinating because they are involved in that universal dream of unimpeded extention which from time to time enables a scientist to dazzle us with the imaginary statistics of a 'perfect' situation; one recalls, for instance, the delicious 'remark in passing' of Le Comte du Noüy when speaking of the growth of a strain of cells derived from a fragment of embryonic heart which has been kept alive since 1912: he calculated that if it were not necessary to cut these cultures in half every day to eliminate their toxic properties they would long ago have been more than thirteen quatrillian times bigger than the sun.

So it is perhaps in deprecation of the exorbitant self-assertiveness of his linear faculty that Caruso allows an ugly and impudent homunculus to drift through his world of overweening structures. One finally accepts this shiftless but unsubmissive creature, for it is through his presence that the artist declares his suspicion of the humourlessness of an obsession, and preserves his scepticism amidst the wonders and mysteries of repetition and the grandeur of a hundred thousand planks.

Robert Melville

2



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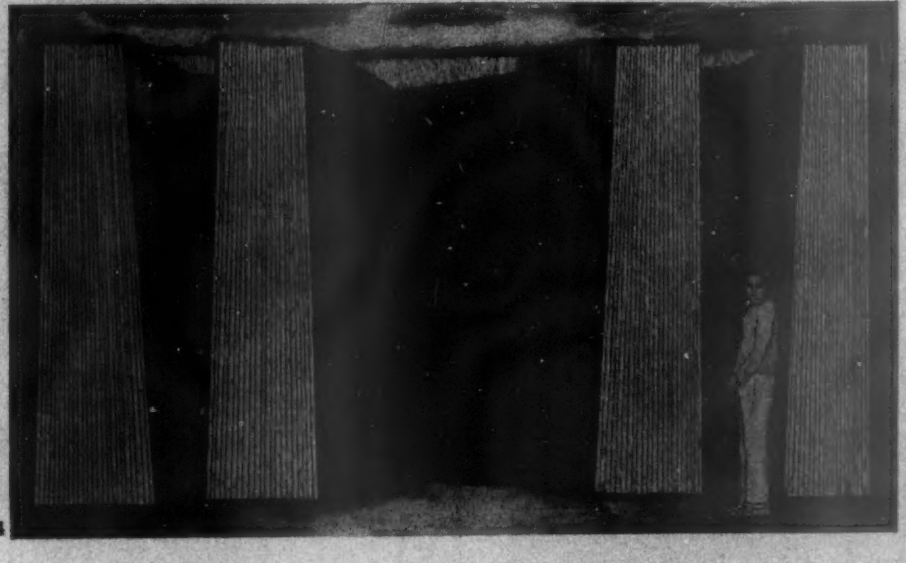

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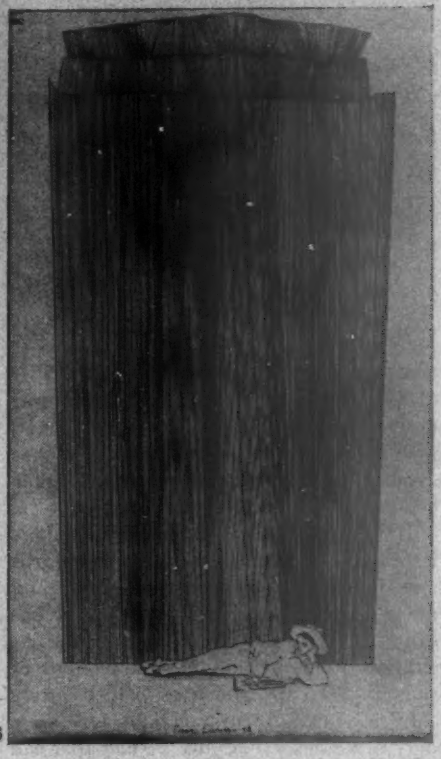
exhibitions: the drawings of Bruno Caruso. *On this page,* 2, Timber Yard, *1951,* 3, Acrobati, *1951,* 4, Uomo fra le tavole, 1955, and 5, Uomo fra le tavole, 1952. *On the facing page,* 6, Periferia, *1953,* 7, Park Seats, *1954,* 8, Botanical Gardens, *1954, and* 9, Carrozzoni di Zingari, 1952.



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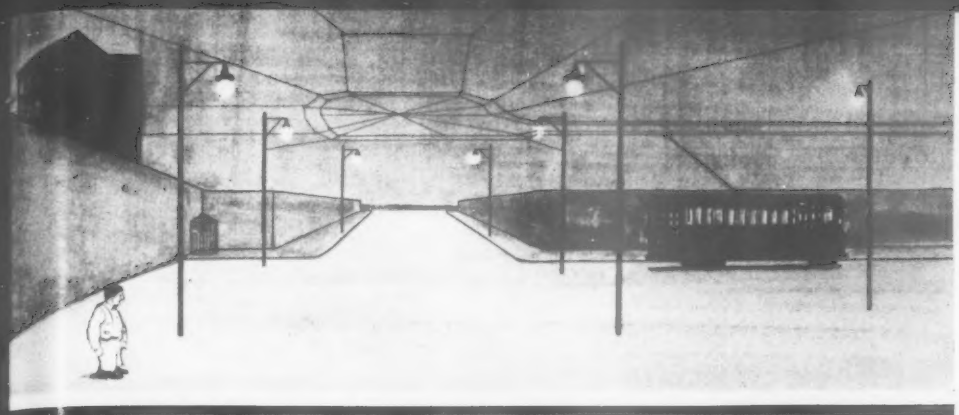

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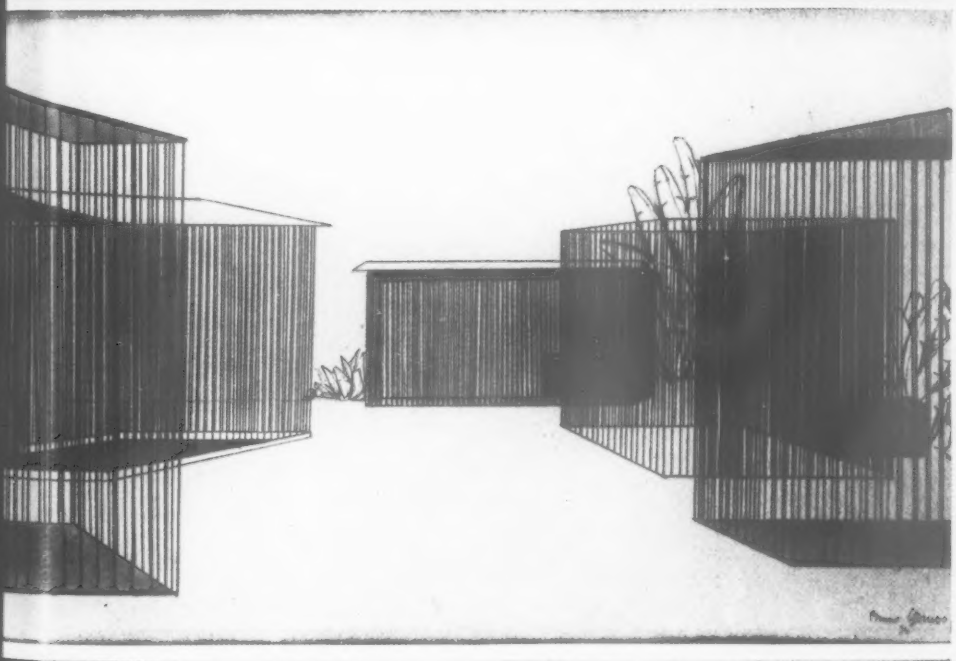

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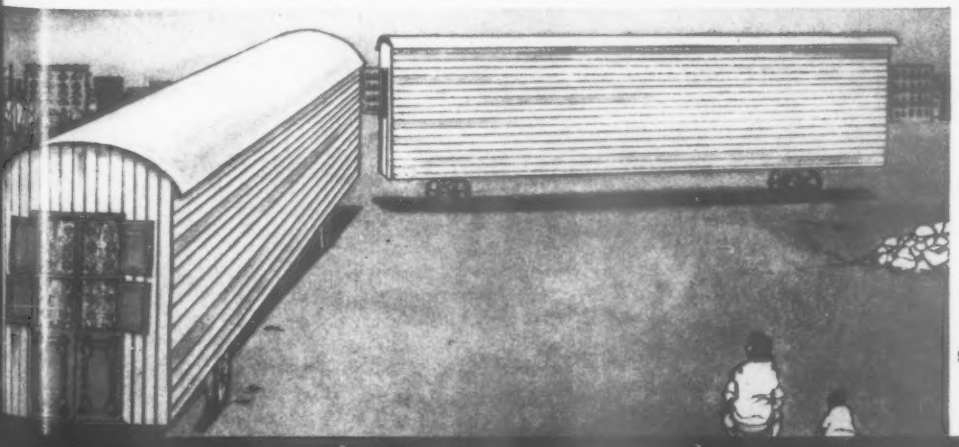


9

WORLD

NANTES-REZÉ

With the completion of the new **Unité d'Habitation** ***at Nantes-Rezé,*** **1,** ***one of le Corbusier's cherished dreams passes from the status of a work of lonely genius to that of a socially acceptable building-type,*** for not only does the new *Unité* show that Marseilles can be repeated, but also that the *têtes dures* of the French working classes actively will its repetition. Though 85 per cent financed by an HLM* loan the block

1

was commissioned by *La Maison Familiale,* a tenants' co-operative of technicians and operatives from the port of Nantes, and is striking reward for Le Corbusier's professed faith in the class of *contre-maîtres* for whom so many of his low-cost housing projects have been designed.

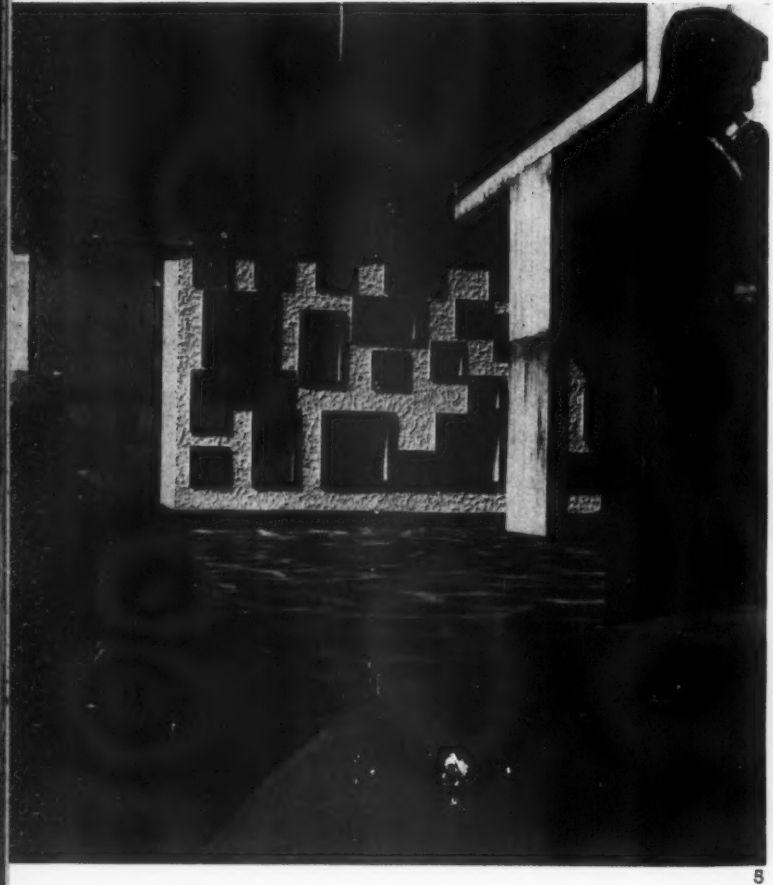
But the differences between the pioneer

* *Habitations à Loyers Modérés,* a government provision for large-scale loans to approved *Sociétés Co-operatives* wishing to erect low-cost dwellings. The Nantes Block provides 294 apartments at an average cost of 2 700,000 frs. each, was built just within its estimated budget of 795 million frs., and just outside its scheduled contract time of eighteen months.

2

3

4



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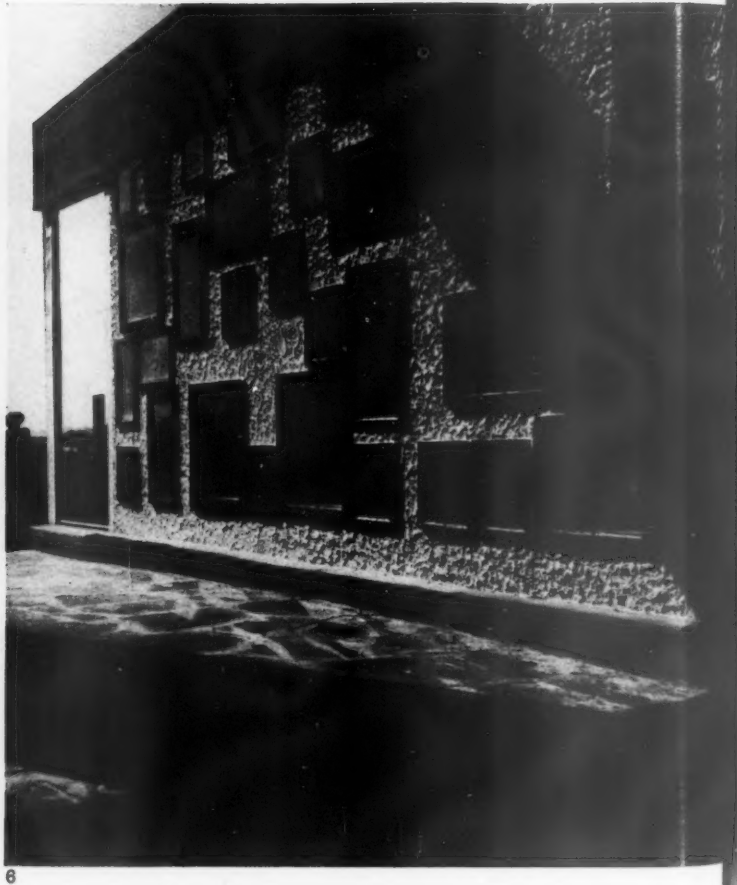

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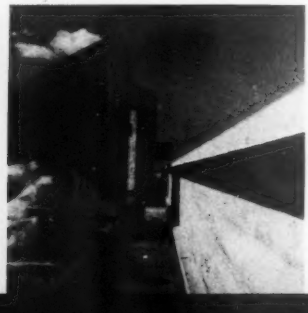
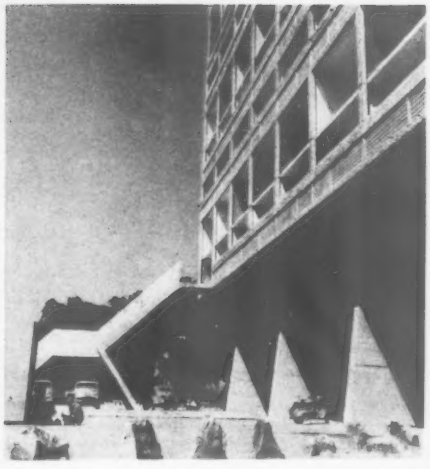
Though the roofscape offers the familiar sculptural incidents—romantic, 3, and classic, 4, it is dominated by the rectangular bulk of the crêche. This form, unsympathetic to le Corbusier's purposes on roofs, he has splintered away with a random pattern of windows whose effect changes, 5, 6 and 7, with lighting and viewpoint. At right; the entrance hall, 8, and a view along the roof-terrace, 9.

UNITÉ AT NANTES-REZÉ

8

9





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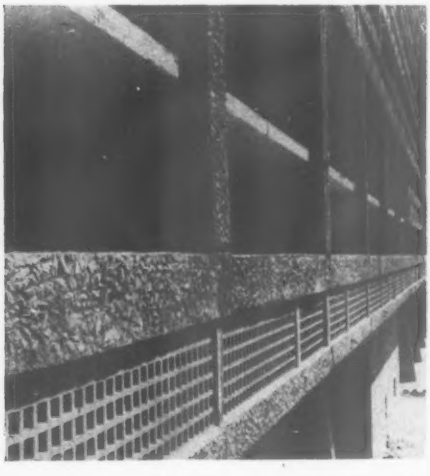
Unité and its offspring go far beyond the nature of the commissioning body. Whatever immediate similarities may appear to the eye, the structure is radically different; described by the architect as 'un véritable château de cartes,' it can best be described as a box-frame of precast elements, rendered rigid by the monolithic staircase-tower, and braced against windage by bringing some of the cross-walls down to the foundations, each replacing a pair of the thin plate-like *pilotis*, 2 and 10, that are so unlike those at Marseilles.

Non-structural elements of the façade now boast a surface of irregular exposed



11

aggregate, 11, which is far more elegantly '*brut*' than mere rough shuttering, but the modifications to the elevations extend to more fundamental considerations than this. The regular pattern of flat-sized openings is divided vertically by the stair-tower, as at Marseilles, but the eye can travel up the façade now without any interruption from a horizontal service zone. The median floors of shops and so forth which were such a feature of the social structure, and elevations, of Marseilles have been suppressed at the tenants' wish, and this is a mark of the reduction of pretensions which is involved in achieving public acceptance. Another mark of the same trend is seen in the interiors of the flats; the 'studio-house' section—a constant in Le Corbusier's work on large blocks since 1923—has been

12

abandoned, the bedrooms have been moved forward to the glazed outer wall, and the living-rooms have lost their double-height ceilings and windows, 12.

But the consequences of the simplification of the programme of social services extend further than this. The increased regularity of the façade is not compensated by any proliferation of sculptural forms on the roof. Though some of the preferred repertoire of steps, ventilator stacks and organic lumps remains, 3, and is used with the customary brilliance in creating close-up roofscape, 4, the silhouette of the block as a whole is dominated by the crêche whose form, for purely functional reasons, cannot be used as a curvilinear foil to the rectilinear grid of the façade. It is, no doubt, in compensation for this that Le Corbusier has invented the extraordinary relation, 5, 6 and 7, of window to wall on the crêche (see cover) that sets it in glittering contrast to the neutral and penetrated façades below. P.R.B.

OUTRAGE

BAD LANGUAGE NEAR SHEPTON MALLET

The REVIEW asked for a trunk road vernacular in 1937. *It has now got one—though hardly the type it asked for—a vernacular which is a compound of offensive language and genteel attempts at apology.* It says '*merde*' and 'pardon my French' simultaneously. When it says these things to an existing crossroads hamlet, the result is the quintessence of Subtopia, as these photographs of Cannard's Grave show.

Cannard's Grave is a five-way junction south of Shepton Mallet, in cold hard limestone countryside; not the sort of place to compromise with either brutality or beautification. The limestone cottages are unable to speak, but they show a fine range of silent contempt for what we have dumped down among them. There are now two Cannard's Graves existing side by side in complete antipathy, and unfortunately the eye has to see both of them at once. The view on the approach from

1

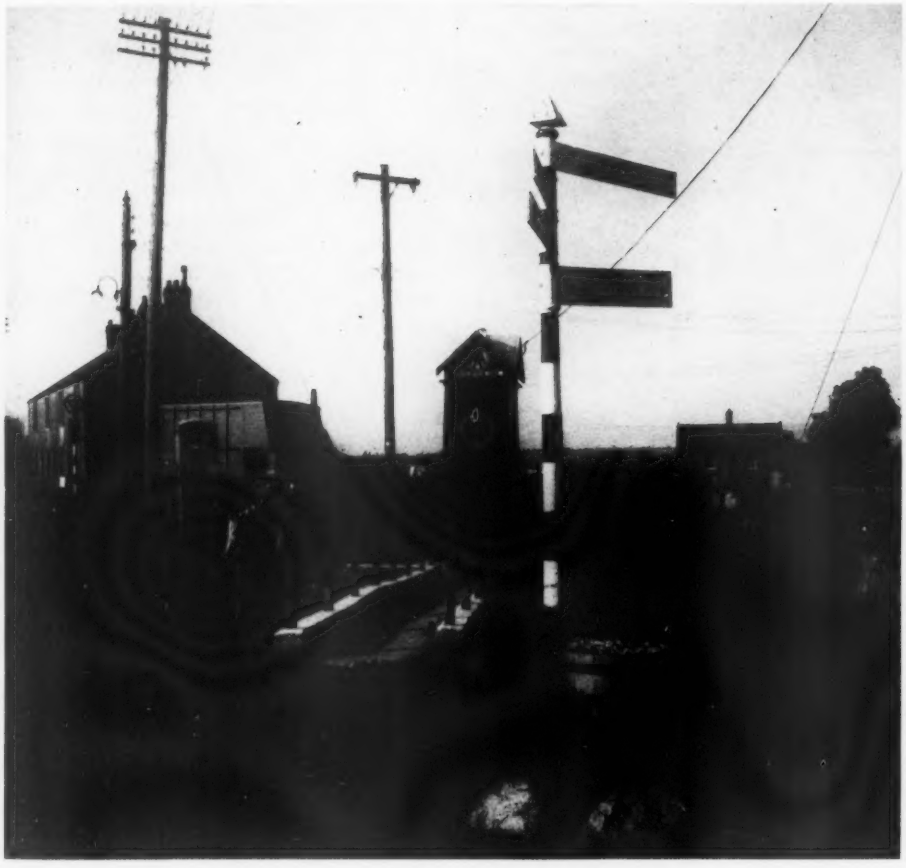
2

Ilchester, 1 and 2, is an equation, with opposite terms cancelling out all round the skyline: positive old+negative new=zero.

3

4

Pumps and kiosk balance chapel and trees in 3; the two lines of poles and wire of 4, utilizing a deft underpass, equate with the



houses and the drystone wall. And the grass island which you see when you get to the crossroads, 5 and 6, contains, at a rough count, the following:—

A. One Somerset C.C. signpost.

B. One A.A. box.

C. Rustic pathway to the A.A. box.

D. One great big pole with wires to and from, a guy-line and a connection to the A.A. box.

E. One pole carrying power lines with connections to the large pole next down the line from D.

F. One telegraph pole with separate set of wires.

G. One smaller telegraph pole.

H. One signboard, apparently unrelated, saying A.371, Shepton Mallet.

I. Two sawn-off tree stumps made into flower bowls.

J. A small privet hedge.

K. Two lengths of trellis work at either end of the hedge.

L. One telephone booth.

M. One 'Slow major road ahead' sign.

To clean up that lot would take the co-operation of at least five authorities—the Somerset C.C., the A.A., the Ministry of Transport, the G.P.O. and the local electricity authority. It would also take a lot of money in putting wire underground, making the signs uniform, moving the phone booth—and most of all in sending an evangelical mission to A.A. men to plead with them to put public good before private horticultural pride. The 'pardon my French' of items C, I, J and K, all connected with the A.A. box, does more to take away the character of Cannard's Grave than anything else.

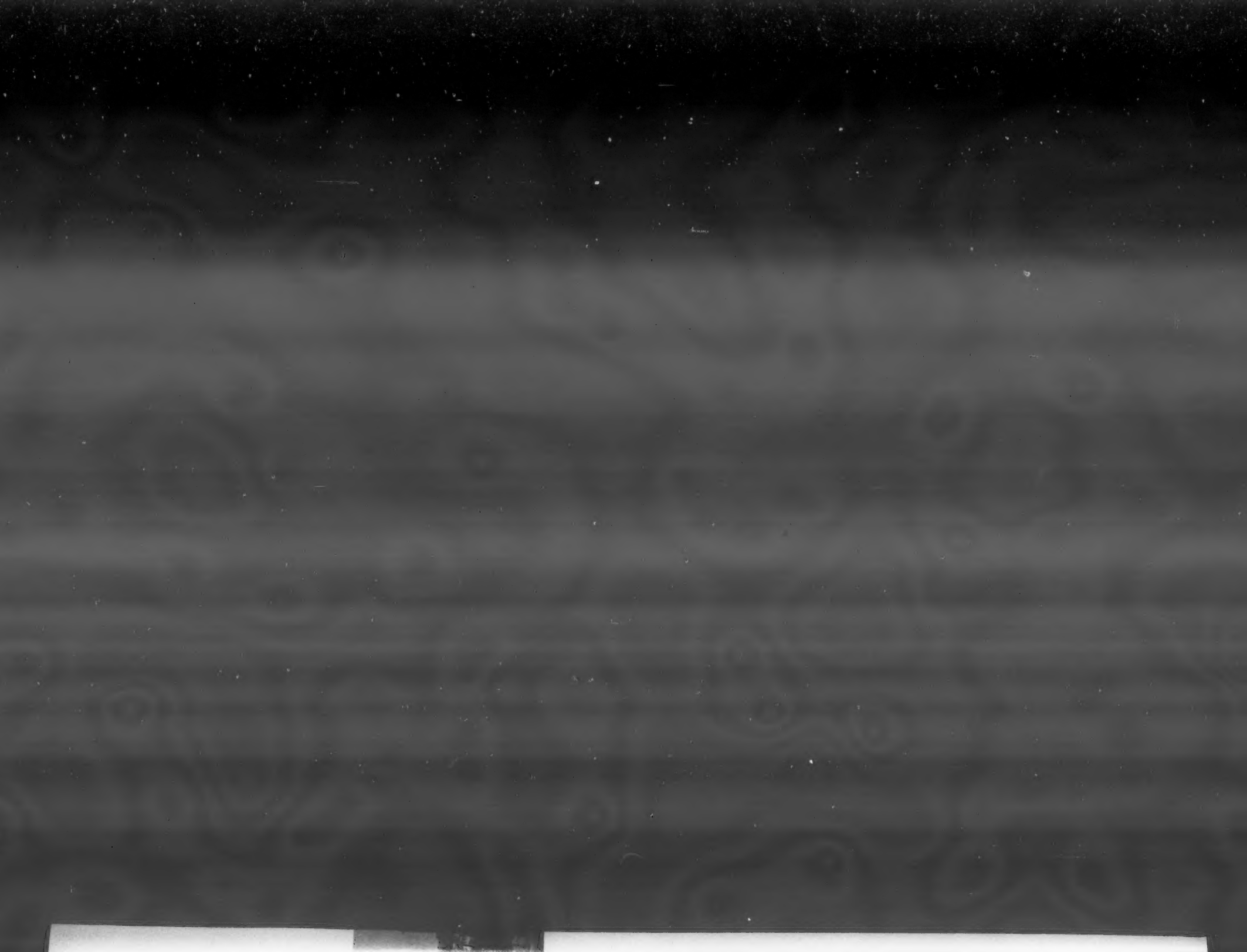
There are crossroad hamlets all over the country like Cannard's Grave—Colgate on the Brighton road, Norman Cross on A.1, Gailey on Watling Street, Andoversford on A.40. They have all had this hideous subtopian overprint, and the terrible thing is that there is now no room left for anything good to be achieved. The space is already used twice over, so to speak. One good detail added to the limbo at Cannard's Grave would only augment the confusion—there would need to be a fresh start. We have driven very fast down a blind alley and now sit looking helplessly at the blank wall at the end, wondering whether we know how to reverse.

Ian Nairn

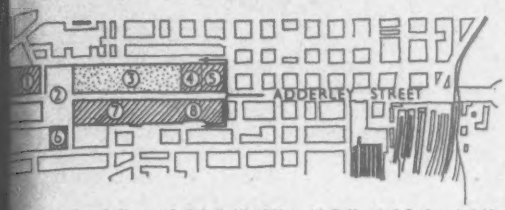
TOWNSCAPE

METROPOLITAN PROMENADE

The original layout of Government Avenue, Cape Town, might well find a place in a case-book for New Town planners. The Oxford Street of Cape Town, Adderley Street, runs in a south-westerly direction from the harbour to the hills. It is not a long street, and it is continued in a straight line by Government Avenue with the National Library and



the Museum on the right, the Houses of Parliament, Government House and the National Gallery on the left. When it was first decided to have such a linear civic centre, the site was chosen outside the town and part of it was given over to the Botanical Gardens. In accordance with this setting, there was only an avenue for pedestrians to separate the buildings from each other, but they were placed in ample grounds, and what traffic was directed towards them had to reach them from their backs. Now Government Avenue is in the middle of the town, but the pedestrian privilege has been preserved—against much opposition from speed fans.



Key: 1, Museum; 2, Delville Wood Memorial; 3, Municipal Gardens; 4, Public Library; 5, St. George's Cathedral; 6, National Art Gallery; 7, Government House; 8, Houses of Parliament.

The Adderley Street cars and lorries still have to make up their minds at the corner of the cathedral (photos 1 and 2), turn left, or right, and reunite half a mile higher up. The delay is negligible and the advantage for the population enormous. Unfortunately the consistent character of the tree-lined promenade (photo 3) was broken by Sir Herbert Baker when he placed the National Gallery half way up and farther back than the other buildings in order to create a formal open turfed cross axis with a rotunda (photo 4), the Delville Wood memorial. The trees of the avenue were here ruthlessly cut down. The result is a beaux arts inset, literally at cross-purposes with the admirable first layout. **N.P.**

BOOKS

SIGNIFICANT AND TYPICAL VICTORIANA

EARLY VICTORIAN ARCHITECTURE IN BRITAIN. *By Henry-Russell Hitchcock. Yale University Press: English edition, The Architectural Press*, 1954. *2 vols. 7 gns.*

This remarkable book tackles its subject with a synoptic grasp and a scholarly precision in pointed contrast to the selective enthusiasms and vague generalizations which have hitherto characterized the study of Victorian architecture. The mere scale of the work immediately differentiates it from anything so far published. Though it covers a span of only about 17 years, the text runs to nearly 300,000 words, and (with the 500 plates) probably describes and illustrates more early Victorian buildings than can be found in all previous books on architecture added together. The author thus has space to deal at length not only with the normal aspects of ecclesiastical and domestic building, but also with subjects such as Nonconformist chapel architecture, commercial buildings, and smaller country houses, about which virtually nothing has previously been published.

With a lesser scholar such a generous scale would have been disastrous, and would surely have led to a display of esoteric pedantry, but Professor Hitchcock's marshalling of his facts is so skilful, his exposition of a complicated episode (e.g., the building of the Houses of Parliament) is so fresh and easy to follow, and his judgments are so free from crankiness, and so obviously based on a wide knowledge of *non*-Victorian architecture, that there is never any fear of the buildings themselves being crushed under the sheer weight of scholarship as so often predicted by Mr. Betjeman. Moreover his style is entirely free from the mannerisms which one has almost come to regard as inseparable from American academic writing.

It is true that the book describes and illustrates a large number of rather dull buildings. There is, however, a sense in which this is to the author's credit. All previous writers, no doubt intimidated by the vast number of surviving Victorian buildings and the even vaster body of contemporary documentation in the various architectural periodicals (a factor which introduces an entirely new element into the study of Victorian as contrasted with all earlier architecture), have been content to pick and choose their buildings according to some subjective criterion (sometimes in search of evidence to support a preconceived theory concerning the nineteenth century origins of twentieth century developments, sometimes out of an interest in the bizarre or anachronistic); and their readers, in the absence of any comprehensive corpus of early Victorian buildings to which to refer, have had in most cases to take their conclusions on trust. Professor Hitchcock's other writings leave no doubt that he also has strong personal preferences and an eye for the unexpected; but in this book he has consistently subordinated them to his search for the significant and typical. Thus he wastes little time on easy targets such as Gough and Roumieu, but goes to much trouble to trace the careers and influences of more important but duller architects such as Benjamin Ferrey or John Gibson. It is precisely this objective and comprehensive approach which gives the book its special value.

It is to be hoped that Professor Hitchcock will not regard this book—for all its length—as his last word on the subject. So much of the text is taken up with analyses of individual buildings that many of the problems to which they give rise are necessarily dealt with only in passing. Indeed, it would not be difficult to list a dozen or so topics on which one would like to read a long article in which the author could elaborate ideas which he has so far no more than adumbrated (e.g., the interpenetration of ideological and aesthetic factors in the influence of the ecclesiologists, the relation between stylistic copyism and artistic originality, the re ative importance of architect and engineer in the exploitation of technical innovations, etc.). It would be a great pity if the compulsion to press ahead with a companion volume on the mid-Victorians should prevent him from developing these and other theoretical implications of his researches on the earlier period; for if he does not do so there is little doubt that others less well-equipped will step in and build on his foundations.

It is disconcerting to find that a work of such erudition is so full of minor mistakes. The considerable number of misprints and mispagings in the index, and the irritatingly frequent misprints in the references from the text to the illustrations, are presumably the work of a careless assistant; but the same can hardly be said of the astonishing number of errors in the dates of birth and death of architects (a quick check discloses mistakes for George Dance, E. B. Lamb, Ambrose Poynter, E. W. Pugin, James Savage, Robert Smirke, and even for the Prince Consort), or in their Christian names (e.g., in the case of J. J. Scoles, S. S. Teulon, and D. Mocatta). In a few places the text is so full of such minor errors as to be almost valueless; for example, the pages devoted to the early work of G. E. Street refer to buildings by him in 12 different places. Of these, one is described and illustrated as if still extant though totally destroyed in the blitz, four locations (admittedly obscure Cornish villages) are misspelt, one (Coleshill) is valueless without its county (Berks, Bucks or Wilts?), one ('Sticker, Cornwall') though taken over from A. E. Street's 'Memoir,' is quite untraceable by normal methods and must surely have been an original misprint, and one ('Harley, Middlesex') is equally untraceable and seems to be a newly-invented misprint. Thus out of 12 buildings only 4 are correctly or adequately described.

Such mistakes in facts which can be readily checked would be dangerous in any book, but they are peculiarly so in this case, for they inevitably throw doubt on the vast array of new facts assembled by Professor Hitchcock and which can only be checked with the greatest difficulty. Moreover by cutting out any references to his original sources (presumably in deference to American publishers' well-known aversion to footnotes), the author has deprived the reader of the only means by which he could reassure himself on this point. Doubts of this sort are, of course, particularly unfortunate in the case of a book which one can hardly suppose will be superseded during the remainder of this century. **Peter Flood**

THE SHAKESPEARE OF ARCHITECTS

THE IMAGINATION OF VANBRUGH AND HIS FELLOW ARTISTS. *By Laurence Whistler. (B. T. Batsford and Art and Technics. 73s. 6d.)*

Soane called Vanbrugh 'the Shakespeare of architects,' and it is an estimate which starts several trains of thought. Could one, for example, match Vanbrugh's buildings with Shakespeare's plays—finding in Castle Howard something equivalent to the lovely yet conventional verse of *Romeo and Juliet*, in Blenheim the depth and infinite suggestiveness of *Hamlet*, in Seaton Delaval the dark grandeur of *King Lear*, in the Temple at Castle Howard the final statement of *The Tempest*? A parlour game, yes; and such

analogies must not be pressed too far. Yet they do, perhaps, help one to appreciate the variety of Vanbrugh's moods, the range of his imagination.

On what was that imagination nourished, what were the sources of his style? We have been given some useful answers, by Webb, by Summerson, by Pevsner, and fifteen years ago by Mr. Laurence Whistler in what, considered as a piece of literature, seems to me the best biography of an architect in the English language. But they remain partial answers for all that, so that the title of Mr. Whistler's new book, *The Imagination of Vanbrugh and his Fellow Artists*, promises something of which architectural scholarship stands greatly in need.

However much one may admire the book—and I for one have nothing but admiration for the diligence and devotion that it shows—one cannot maintain that this promise is fulfilled. Indeed it is rather hard to see why it is titled as it is; for it is not principally, or even largely, concerned with the architect's imaginative processes, and Mr. Whistler seems to have missed at least one recent article which threw new light on the subject.* On the related question of the apportioning of credit between Vanbrugh and Hawksmoor for the buildings in which they collaborated he does have his own views to offer. Their general tendency is to add lustre to Hawksmoor's reputation without allowing Vanbrugh's to become tarnished, though Mr. Whistler is by no means a wholehearted Hawksmoorean, finding 'a lack of "inevitability"' in his designs.

The suggestion that the book could more truthfully be called *Sir John Vanbrugh: Addenda and Corrigenda* may sound rude and ungrateful. But after all *addenda* and *corrigenda* may be necessary and excellent things. In matters of fact Mr. Whistler has much to add that is of interest and importance: the certainty that Cholmondeley was remodelled by Vanbrugh, new material relating to the development of Castle Howard and Eastbury and Claremont and Kimbolton, information about Vanbrugh's smaller houses and the buildings for the Office of Ordnance that may so convincingly be attributed to him. And when it comes to the correction of his earlier views—as on Vanbrugh's share in the laying out of the gardens he helped to adorn with buildings—Mr. Whistler does so with a thoroughness of documentation which will put later writers in his debt.

The book on the *imagination* of Vanbrugh and his fellow artists, showing how and why the 'Heroic Baroque' came about and in what it differed from—and resembled—the Baroque of the Continent has still to be written. The subject is the more fascinating because it embraces one of the paradoxes of art history, the fact that the English Baroque is the first herald of the European Neo-Classical movement of the second half of the eighteenth century. With Hawksmoor and James building the first churches in Europe with truly Roman porticoes, with Hawksmoor in his 'almost morbid passion for classical archæology' (Mr. Summerson's phrase) using the Mausoleum of Halicarnassus for a church steeple and perhaps even designing a church on the plan of a peripteral temple, with Vanbrugh (assuming it was he) building barracks and storehouses and arsenal gateways that fulfil Blondel's requirements for *l'architecture parlante* and Boullée's for *caractère* to a degree that few later buildings did, English architecture was ahead of the times as seldom before or since. **Marcus Whiffen**

* N. Pevsner, "Good King James's Gothic," A.B., CVII (1950), p.117.

MAKERS, FAKERS, COLLECTORS, DEALERS

FURNITURE MAKING IN SEVENTEENTH AND EIGHTEENTH CENTURY ENGLAND. *By R. W. Symonds.* (*The Connoisseur*, 1955.) £8. 8*s.* 0*d. net.*

A book by Mr. R. W. Symonds is an event of importance, not only for furniture collectors but for all who are interested in the antique refinements of English furniture design, and in its relation to and reflection of social history. 'It was the collector,' the author affirms, 'who first discovered old English furniture. The subject was therefore studied in the first place from the point of view of his fads and foibles, and not from that of social and economic history.' Mr. Symonds' books have, during the last quarter of a century, done much to re-orientate historical studies of furniture design. In his latest work he has given particular and penetrating attention to the making of furniture from the beginning of the seventeenth century to the end of the eighteenth. It is a superbly illustrated book, and only very few of the examples have been published before. His opening chapter on collectors, from Horace Walpole to Percival Griffiths, is in itself a masterly study of the receptiveness of the collecting mind, and the psychological accomplishments of the dealer. One of the most heartening statements in the book, which appears at the opening of Chapter V, is that 'the faking of furniture no longer pays.' That particular chapter, which is entitled 'The Ingenious Faker,' should be read and taken to heart by all those emotionally misguided people who put mere age before good design.

Mr. Symonds has uncovered two entertaining examples which redound to the discredit of Batty Langley, namely a design for a console table which he cribbed from Nicholas Pineau, and another of a dressing table, which he also cribbed from Johann Jacob Schübler. The original engravings and Batty Langley's copies, which he published without any acknowledgment, are shown side by side. Unlike many people who write about antique furniture, Mr. Symonds has a lively pen and a cheerfully interesting style.

John Gloag

Shorter Notices

MASTERS OF MODERN ART. *By Alfred H. Barr, Jr. The Museum of Modern Art, distributed in England by Putnam. 5 gns.*

With its silver jubilee due for celebration this year, some form of commemorative publication from the Museum of Modern Art was clearly to be expected, but the result exceeds expectations in bulk, thoroughness, lavish use of colour, and sheer sumptuousness of total effect. *Masters of Modern Art* is large in size, and sports a pair of colour inserts at practically every other page opening; the quality of the colour-work varies from the barely adequate to the brilliant, and the paintings so illustrated range from nineteenth century primitives to twentieth century action-painters, from Italian Futurists to American Sharp-Focus Realists. In the section on architecture and design two treats for connoisseurs must be noted, coloured plates of assembled furnishings and *Gebrauchskunst* by Guimard and other Parisian masters of *Art Nouveau* in one picture, and by Rietveld and other members of *de Stijl* in the other.

Such a book needs no recommendation; so complete a coverage of the most spectacular collection of contemporary art in the world should be within reach of every student of any branch of the visual arts. But it will also be the memorial of the first period in the museum's history; although the MMA set out to be a museum-in-motion, travelling forward with time and bequeathing its older art works either to the dustbin or the Metropolitan Museum, according to quality, it has found itself continually establishing, not reflecting, canons of modernity. This tendency is now to be faced, and MMA will start to accumulate a *permanent* collection, and is to buy back into the nineteenth century in order to give it a firmer foundation. This means that wherever the Museum is influential (the entire Westernised world) the word *modern* will now have a fixed place on the absolute scale of time—somewhere about 1880 will mark its beginning—and we shall have to think of a new word for movements which have sprung up in our own life-time. **P. R. B.**

LA CATTEDRALE DI PALERMO. *By Professor Antonio Zanca. Accademia delle Scienze, di Letteratura e delle Arte di Palermo.*

The Accademia delle Scienze, di Letteratura e delle Arte di Palermo has published a definitive history and description of Palermo Cathedral. The author is Professor Antonio Zanca, a man highly qualified for undertaking this work. He won a national competition in 1900, the object of which was to make proposals for the restoration of the cathedral to its medieval state. This involved the removal of the eighteenth century dome and the neo-classical overlay of the interior. The restoration was not in the end done, and Professor Zanca himself admits now that it would have been 'a lie.' However, the Accademia has at least enabled him to show in a reconstruction on paper how the original building, according to the fifty years of research he spent on it, must have appeared.

The cathedral was begun by Roger I, the Norman invader and liberator of Sicily, a contemporary of William the Conqueror. It owes, however, more to the local masons with their strongly developed style than to Roger's Norman past. Moorish traditions are especially manifest at the west end and in the arches of the porch. The book is a fine example of Italian printing. It has eighty-seven illustrations and a grandiose binding of the familiar 1900 type. **Joan Higgins**

Books Received

ST. PANCRAS CHURCH AND PARISH. Chas. E. Lee. St. Pancras Parochial Church Council.

THE AUTOMATIC FACTORY. Institute of Production Engineers.

CONCRETE STRUCTURES IN INDIA. Concrete Association of India. Rs. 2.

NEW HORIZONS IN COLOUR. Faber Birren. Reinhold. $10.00.

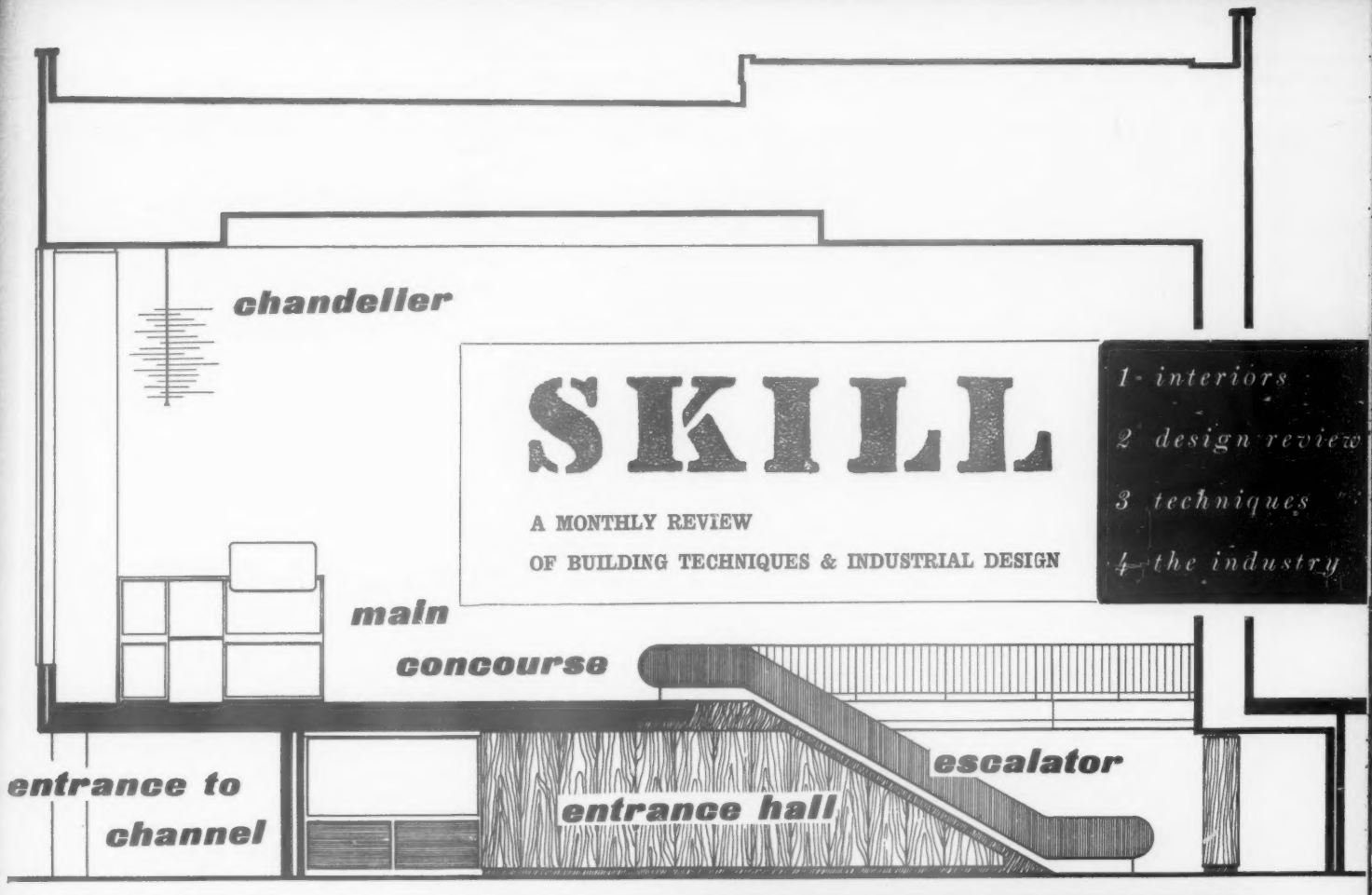
HOW TO USE CREATIVE PERSPECTIVE. Ernest W. Watson. Reinhold. $7.50.

LAXTON'S BUILDERS' PRICE BOOK. Kelly's. 35*s.*

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



Above, section through a passenger channel.

The South-East face Passenger Handling Building of London Airport, together with the whole Central Terminal Area of which it is a part, will be officially inaugurated by the Queen on December 16th. The following pages illustrate the interior of the Building; the exterior was illustrated in the July issue. 1, *an entrance hall to one of the passenger channels, at the foot of the escalator which leads up to the main concourse. The tiled wall was designed by Peggy Angus.*

1

1 INTERIORS

LONDON AIRPORT, SOUTH EAST PASSENGER HANDLING BUILDING

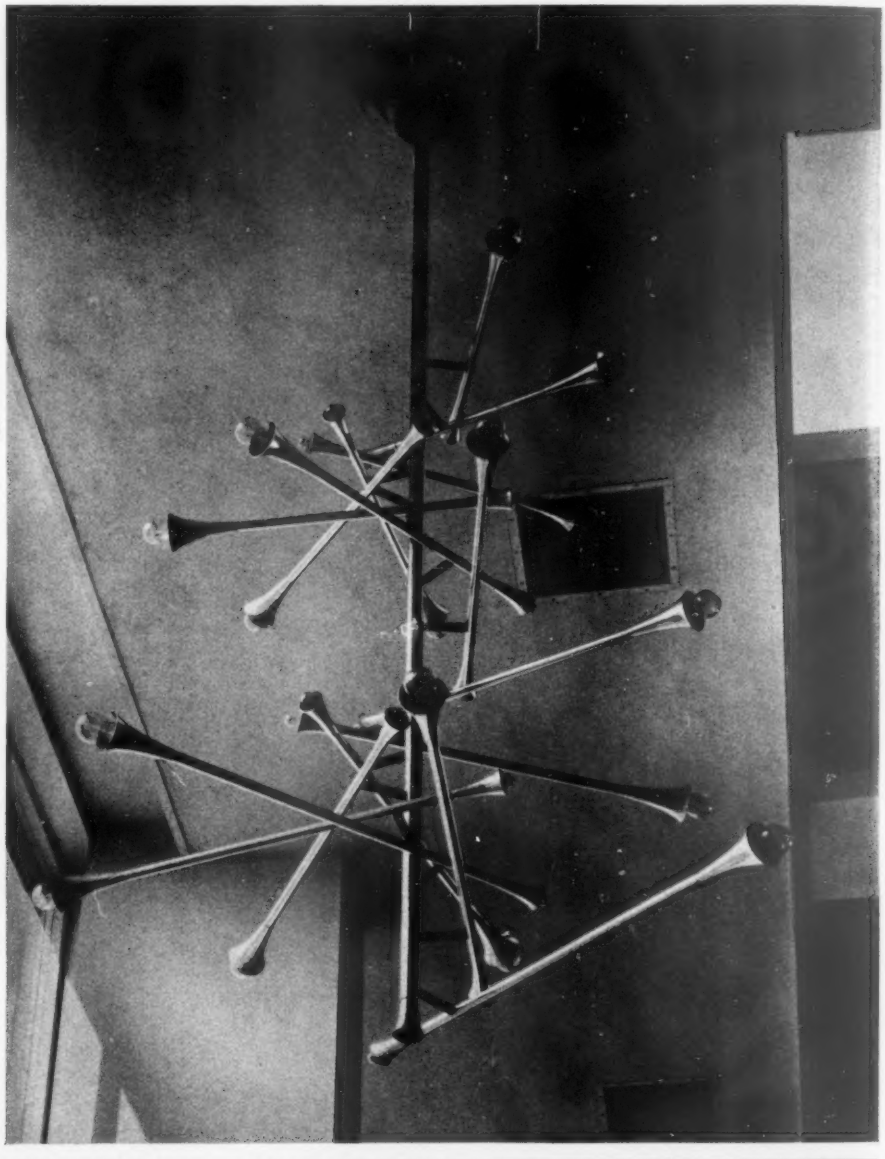
Architect: Frederick Gibberd; Partner-in-charge: R. J. Double

The main function of the building is to provide for the handling of in-coming and out-going passengers and their luggage. In addition it provides amenities for passengers, facilities for technical staff working on the apron and accommodation on roof terraces and gardens for spectators. London Airport has been furnished to form an exhibition of British interior design and equipment. The furniture falls into two groups: that designed by the architect as an integral part of the building,

[continued on page 337

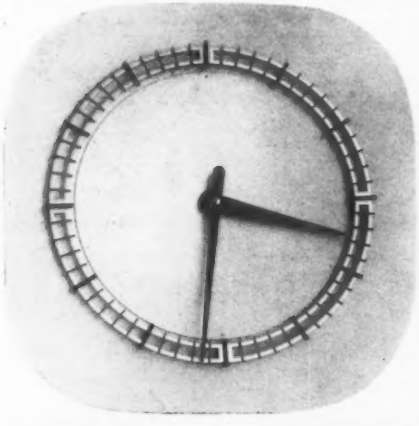
2, indicator on the outside of the concourse above one of the channel entrances on the landside of the building. 3, one of a series of chandeliers hung along the window-wall of the concourse.

2



3

4, concourse clock. 5, concourse ceiling, consisting of fibrous plaster panels, each about 6 feet square; the fluorescent lights in the troughs are serviced from above through traps in the ceiling. 6, view along concourse from the north-east end, showing luggage conveyor belts behind the barrier and, beyond, escalators from passenger entrance halls.



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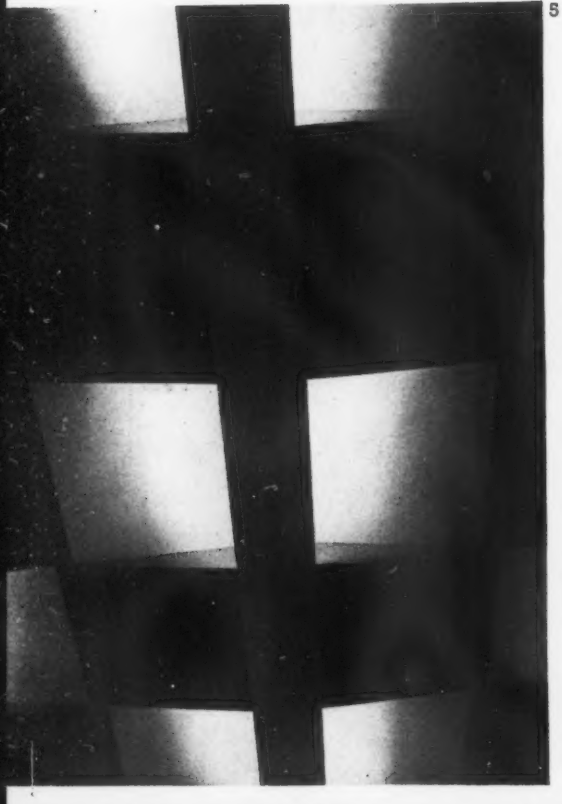

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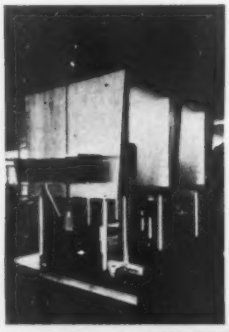
7, enquiries desk in the general entrance hall, panelled up to counter level in green and white marble. 8, the second-floor balcony lounge overlooking the centre of the concourse; the staircase and columns are faced with Genoa green marble. 9 and 10, notices at the foot of the main staircase, concourse level. 11, handle on entrance door to the public restaurant, second floor. 12, typical entrance door on the ground floor to one of the passenger channels, hardwood framed and metal trimmed.

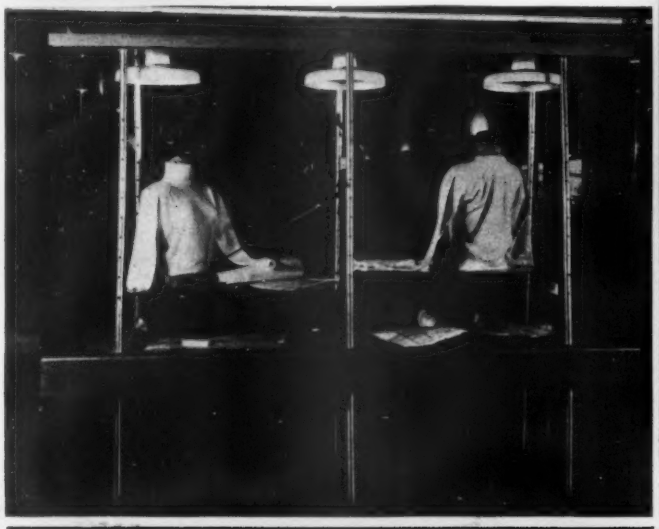
11

12



13

13, *telephone boxes at the top of the main staircase; the walls and ceiling are faced with acoustic board.* 14, *top-lit showcases, walled entirely in glass, which divide the pairs of waiting rooms.* 15, *standard ashtray and,* 17, *standard w.p.b. used in all public rooms.* 16, *the north-eastern waiting rooms, with polished cork floor, and end wallpapers by June Lyon. The wall seating is to the architect's design; the tub chairs are by Robin Day.*



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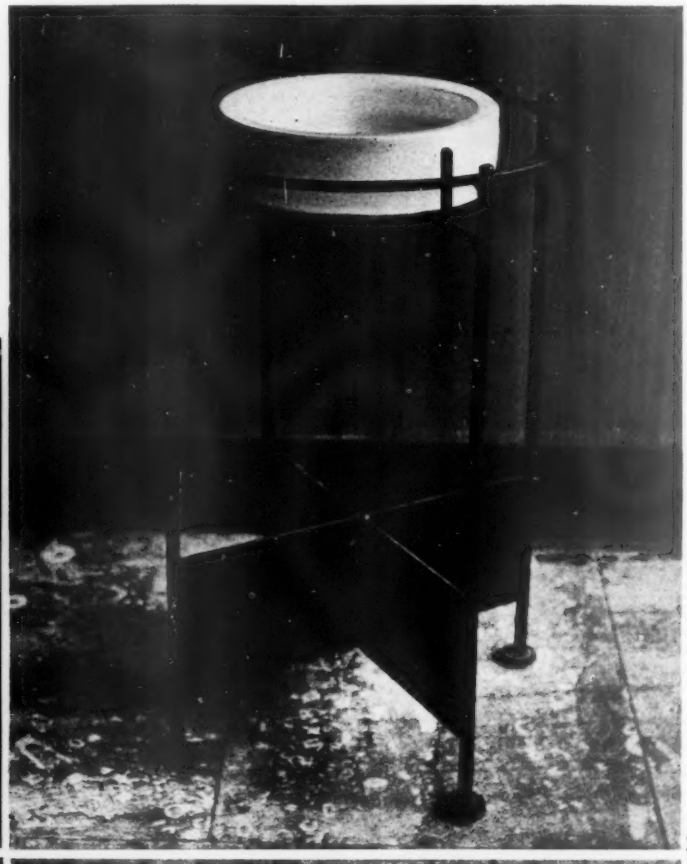

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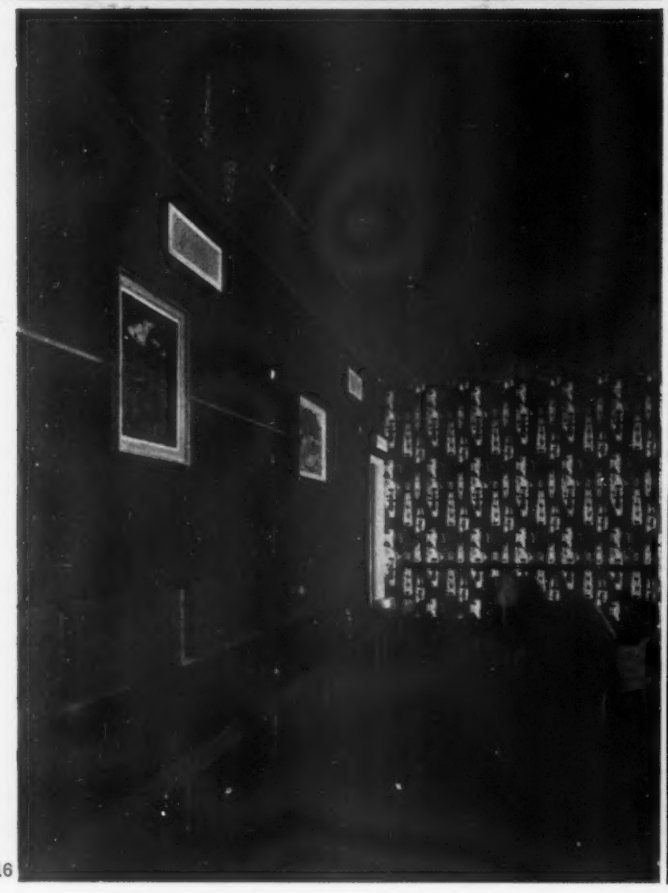

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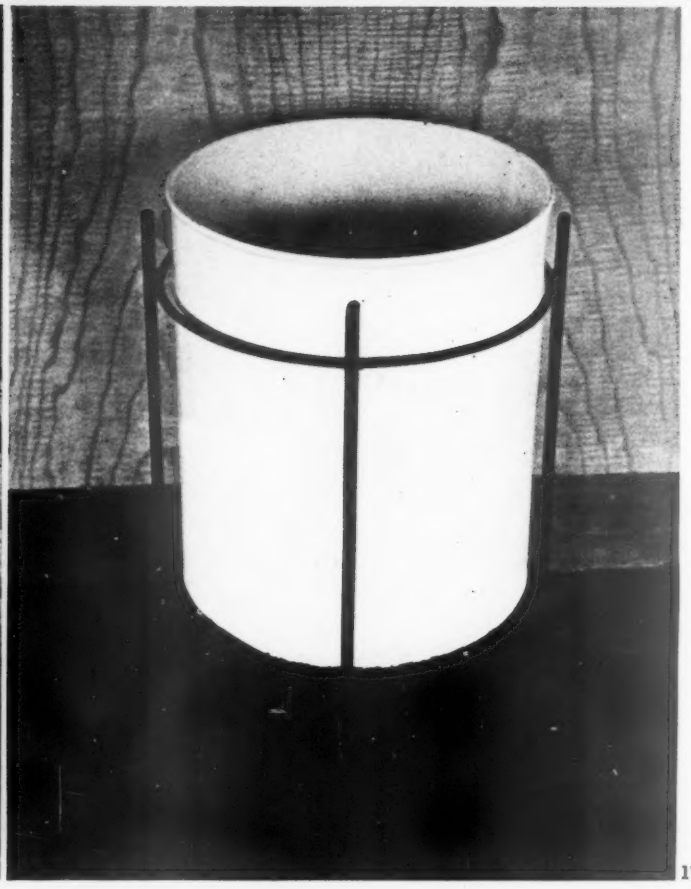

17

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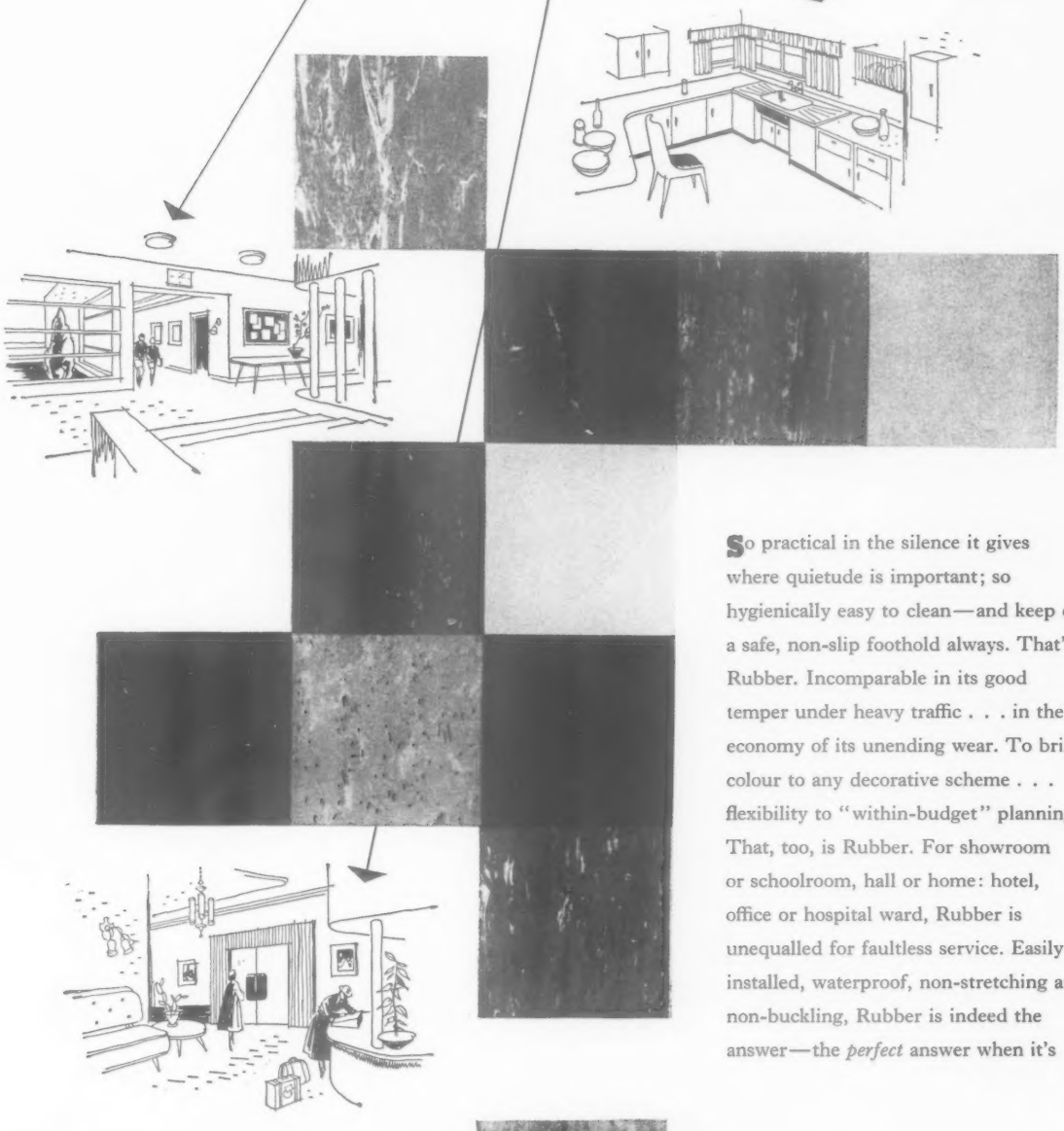

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		per sq.	per sq. yard	per sq.	per sq. yard	per sq.	per sq. yard
13½″	3″	92.5	8.3	90	8.1	1,000	90
12¼″	4″	100	9.0	98	8.8	1,100	99
11¼″	5″	109	9.8	107	9.6	1,200	108

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continued from page 333]

and movable furniture. The latter and the furnishings were chosen from a wide variety of designs though confined to articles which are on the general market.

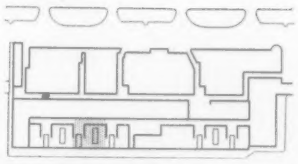
The continental section of the building is planned at first floor level as a series of transverse bands containing the concourse, customs, immigration, health and waiting rooms. The whole of the ground floor is given over to the handling of baggage, the accommodation of technical staff and equipment and the preparation of food and other services. The main part of the passenger facilities is concentrated on the first floor. At this level, departing passengers or those arriving from abroad pass through one or other of the ten parallel channels already mentioned. Each channel is self-contained, the route unmistakable and free from interruption by cross flow, and each is reversible, i.e., capable of handling either inward or outward-bound passengers. Each channel is on two levels and a passenger arriving by coach from the town terminal passes through the appropriate channel entrance on the ground floor level and reaches the main concourse by escalator. The wall facing the ground-floor entrance is tiled in a brightly coloured pattern, designed by Peggy Angus, and is arranged to take small posters. The side walls are faced with straight grained elm panelling, the floor is terrazzo tile and suspended acoustic tiles form the ceiling. The escalator is encased in aluminium with dark green melamine faced plastic panels on staircase side and ribbed aluminium on outside. The hall has a fully upholstered settee designed by Robin Day, covered with a black and cream handwoven wool and linen fabric. This same fabric, in plain black, is used for the cushions. Apart from the series of channel entrances for those travelling by airline coach, there is a central entrance hall on the ground floor, which serves passengers using private car or taxi. The treatment of this hall is similar to the channel entrances, and a deep blue tile serves as a background to the desks and weighing machines. In the centre of the hall is a cube-shaped enquiry kiosk constructed of a silver bronze framing faced with genoa green and white marble slabs below counter level.

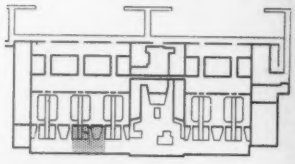
The concourse stretches across the

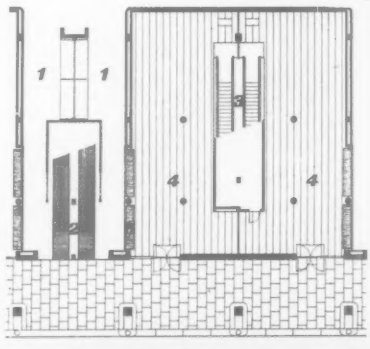
18, luggage weighing scales, ground floor. 19, foot of escalator in typical channel entrance hall. 20, top of escalator facing landside of concourse, and a typical 'processing point' on the right. 21, escalator of central channel, with balcony lounge above.

entrance to typical channel

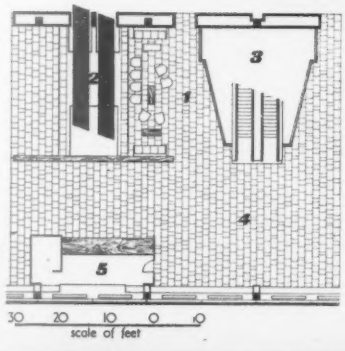
Each of the numbered plans on the following pages is accompanied by a key showing its relation to the whole.







Key: left, ground floor, 1, luggage racks; 2, luggage conveyors; 3, escalators; 4, entrance hall; 5, luggage counter: Right, first floor, 1, waiting areas; 2, luggage conveyors; 3, escalators; 4, concourse; 5, bank.



18
19

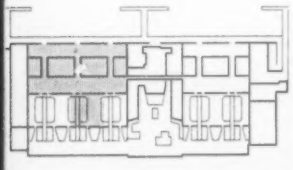
20
21

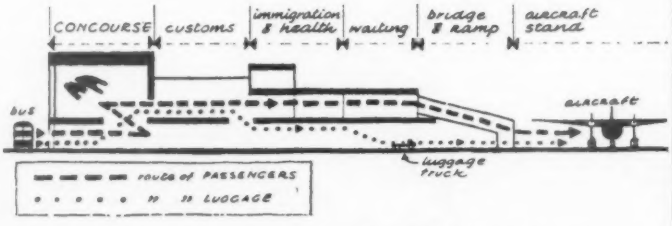
22, *luggage conveyor belt passing into customs hall.*

23, *passenger entrance to customs hall.*

passenger's progress

Right, section through the building showing the organization of passenger handling.





24, *customs hall.* 25, *immigration hall.* 26, *health control from immigration hall.* 27, *airside waiting room.*

24

25

26

27

entrance face of the building, at first floor level. It is 480 feet long, 55 feet wide and 24 feet high, on two floors. Although appearing as one long hall, it functions as three sections; the centre portion stretching through the heart of the building to the restaurants on the airside, and wings on either side through which the channels pass. The wall overlooking the entrances is of glass in a steel and aluminium frame. The opposite wall is plastered and has Honduras mahogany panelling around the customs hall entrance and other openings. The floor is Derbyshire fossil limestone. The ceilings of the centre portion are acoustic plaster, but to the wings over the channels it is in fibrous plaster of an undulating chequer pattern with alternate panels perforated for sound absorption. The undulating panels are illuminated by concealed fluorescent lighting. Contrast in artificial lighting is provided by wall brackets and by a series of chandeliers designed by the architect and hung in the windows. There are five large poster frames 18 feet by 10 feet on the long and end walls of the room which it is hoped will provide an exhibition of the best commercial art of this country. The colour scheme is quiet and cool. The surfaces are of polished hardwood, metal of various kinds, and plaster painted white or in various tones of grey. In the waiting area, it consists in tub chairs upholstered in dark green hide. The occasional tables, specially designed by the architect, are in Honduras mahogany with silver bronze feet. Owing to a customs requirement a high standard of natural light is required in the customs hall, and this is provided by a series of monitor roofs formed with an exposed welded steel frame. In the colour scheme the steelwork is painted white and blue, the end wall deep crimson and long walls green.

The floor of the immigration hall is in light grey rubber with small inset pieces of red. The walls are plastered and the ceiling constructed with a removable concealed fixing fibre board into which are set the fluorescent light fittings with egg-crate diffusers. The colour scheme consists of pale green and blue walls with a white ceiling.

The waiting rooms overlook the apron through the airside gallery. The floor is polished cork and has a heated ceiling. The end walls have a wallpaper of white motifs on a lime green background by June Lyon and the walls opposite the windows are finished with alternate sections of dark brown and dark green which identify the waiting-room units. The pairs of waiting-rooms are divided by a row of three all-glass illuminated showcases. The tub chairs, designed by Robin Day, are upholstered in a black and white fabric with cushions in flame red. Wall seating is specially designed by the architect. The seat sections are supported in front by

LONDON AIRPORT TERMINAL

Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.
Contractor: Taylor Woodrow Construction Limited.

The attractive HAND MADE RUSTIC FACING BRICKS used on this brilliantly conceived structure were supplied by

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Interior of Dover Car Ferry Terminal finished in Nulon.

Photographed by courtesy of Dover Harbour Board

Architects: J. M. Wilson, H. C. Mason & Partners

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turned legs with silver bronze feet. The wooden slabs are veneered with Honduras mahogany and the rubber seat and back cushions are covered with a flame red fabric.

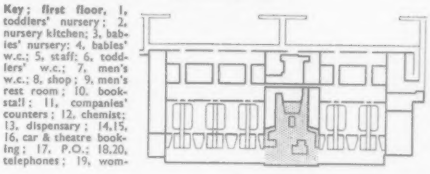
The central section of the main hall is the heart of the building and contains, at two levels, the public amenities. At first floor level are airline counters, shops, post and cable offices, etc. At second floor level a balcony overlooks the main concourse and gives access to the lounge bar (which opens directly on to the 'waving base') and buffet, and to a restaurant which overlooks the airfield.

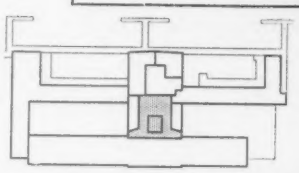
The main staircase and the surrounding columns and balcony front are faced with Genoa green marble with white Sicilian treads and black terrazzo risers. The staircase wall and balcony has a glass balustrade with white standard and heavy mahogany handrail. The airline companies' and all other counters are faced in olive ash. The deep window cills are covered with Brunero black marble. The balcony lounge is carpeted in black with yellow specks which runs along one side of the lounge, and has a counter with a blue formica top and a front of ribbed teak in a surround of silver bronze. The fascia over the bar is shaped and veneered in weathered sycamore with concealed lighting. The public restaurant, which is divided from the lounge by an all-glass screen, overlooks the airfield through a full height continuous bow window. A series of mirrors faces the window wall and reflects the view for those with their backs to the airfield.

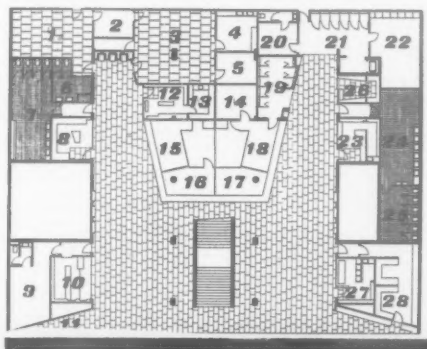
Placed centrally at first floor level on the airside of the building, but quite unconnected with the main concourse, is a self-contained suite for transit passengers who have to remain on the airside of the controls whilst waiting to continue their journey. The suite is planned in two halves with a servery between. On the north side is a buffet lounge, cables offices, bookstall and export shop, and a nursery. On the south side is a restaurant with a cocktail bar. The buffet counter has a veneered teak panelled front and formica top with back fittings to match. The cables counter and bookstall are faced in straight grain elm and the shop has the same shopfront as in the main concourse. The cocktail bar is panelled in weathered sycamore slightly fumed with teak counter and louvred screens. One wall of the restaurant has a bottle pattern wallpaper with a dark green background designed by June Lyon. The dining tables are in

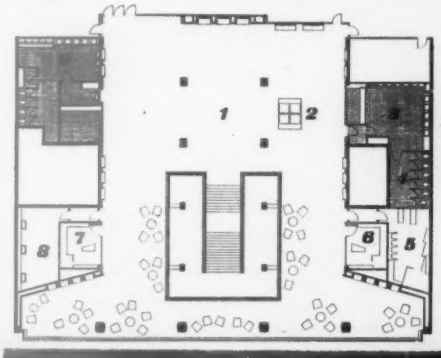
central channel, landside

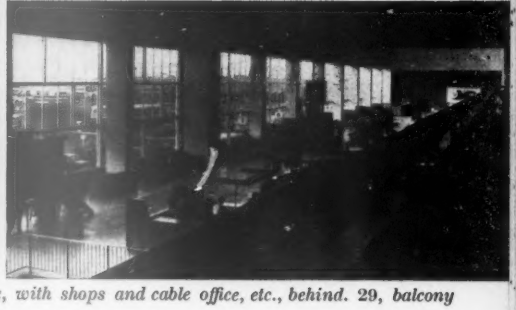
Key: first floor, 1, toddlers' nursery; 2, nursery kitchen; 3, babies' nursery; 4, babies' w.c.; 5, staff; 6, toddlers' w.c.; 7, men's w.c.; 8, shop; 9, men's rest room; 10, bookstall; 11, companies' counters; 12, chemist; 13, dispensary; 14,15, 16, car & theatre booking; 17, P.O.; 18,20, telephones; 19, women's rest room; 21, press equipment, 22, confectioner; 23, powder room; 24, tobacconist; 25, women's w.c.; 26, florist; 27, preparation room; 28, concourse buffet; Second floor: 1, lounge; 2, telephones; 3, powder room; 4, women's w.c.; 5, hairdressing; 6 and 7, outfitters; 8, barber; 9, men's w.c.











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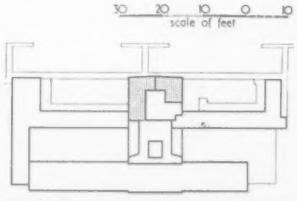
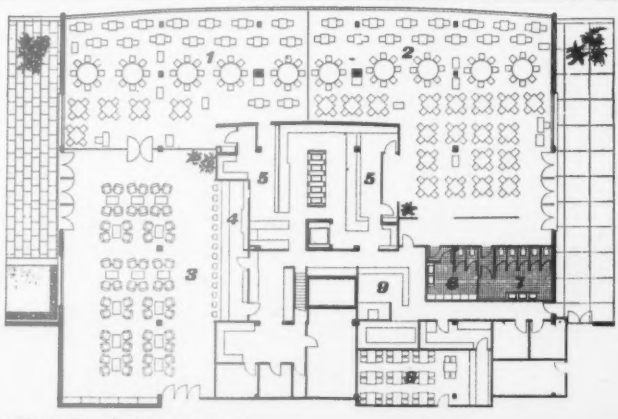
28, *central staircase from concourse to balcony lounge, with shops and cable office, etc., behind.* 29, *balcony lounge.* 30, *concourse seen from lounge.*

restaurants, second floor, airside

Key: 1, public restaurant; 2, spectators' restaurant; 3, public lounge; 4, buffet; 5, servery; 6, men's w.c.; 7, women's w.c.; 8, staff snack bar; 9, beer store & garden servery.

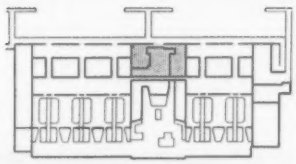




31. *buffet lounge and bar in the centre block.* 32, *airside restaurants.*

31
32

transit



33, transit passengers' lounge and servery, first floor.

three sizes, and together with the chairs have turned and tapered legs. The servery tables were specially designed by Roger Clynes, these have a figured teak veneered carcase, mounted on stove-enamelled tubular steel legs.

A long glazed gallery runs the full length of the building on the airside connecting all channels and providing a link between the transit suite and the adjacent Eastern Apex building. From this gallery foot-bridges provide access directly to and from the apron over the apron road. The construction of the gallery and bridges consists of a light steel frame, metal windows with a reinforced exposed wood-wool slab roof, light-weight screed and waterproofed with three-ply felt and covered with marble chippings. Along the length of the gallery are twelve window bays cantilevered outwards and filled with potted plants set in pebbles. The floor of the gallery is made up of black 3 inch by 3 inch clay tiles, with a pattern inset of various colours with white tiled skirtings.

The design and siting of clocks, loud-speakers, etc., was worked out in conjunction with the internal wall treatment. A system of telephone ducting embedded in the floor screen has been provided throughout the building. Owing to the important part played by signs in the working of the building, a typographer, Colin Forbes, was employed to set up and design the layout of all public signs.

2 DESIGN REVIEW

CANE FURNITURE

At any period one can pick out one material that has proved particularly stimulating to designers and specially acceptable to the public. So far the material that the designers of the 'fifties seem to have quickened with most life is cane.

As with much in this century the first intimations were in exhibition design, and delightfully fantastic dummies in department store windows. 1951 was a heyday of cane sculpture, with elegant fish at the South Bank and Piper figures crowning the pleasure gardens. It is not eighty years since a previous fashion for cane, if such substantial output can be so called, spread across the world. The tables and long chairs at which our great aunts crocheted and Empire builders drank their sundowners in tropical dusk were in the most virile tradition of Victorian functionalism, free from vulgarity as from neo-classicism. Much of this furniture is still with us, rotting in summer houses. Some has the luck to be refurbished, with happy perspicacity, as Victoriana. But the new furniture that I find remarkable although so near in time, and indeed in spirit, to the planters' wickerwork is in no sense a revival. It is the most uncompromising and serious of the younger designers who find themselves continually, and I suspect compulsively, tempted to use cane. It is used seriously for chairs, frivolously for nick-nacks and hanging baskets, perversely for screens and panels that could have been done more lastingly and hygienically in other materials. It appeals for several reasons, topical rather than utilitarian. Since guy-ropes and the visual results of isolating the tensile from the compressive components of a structure began to fascinate architects, linear components, ropes and wires have developed an intrinsic popularity. A reaction from the incessant cubes of the twenties and the grim rectangles of civic air raid shelters added to this. Cane shares with metal rods and tubes its linear, tensile nature. But its popularity derives as much from its shortcomings as from its virtues. When functionalism and geometric simplicity became terms of abuse, and architects were searching in a hunted way for all and every means of producing pattern, cane with its lightness and impermanence seemed a heaven-sent medium.

The furniture here illustrated falls into two types. But the division is not simply between the structural and the decorative. At such a high level of design the two would be unlikely to be found separate. The division is between furniture of cane construction and that where the cane is infilling. Oddly enough the examples in cane construction have the more pictorial line, and those with cane infilling are the more austere in conception. These examples are the work of four Englishmen and one Italian, yet, coming from separate

1

2

3

1, armchair by Norman Slater for J. Collins & Sons, £9 15s; 2, dining chair by Conran, £4 16s 3d; 3, an Italian dining chair at Peter Jones, 10 gns.

sources, they have that vintage mark that so puzzlingly appears in all fields of intellectual activity. 1, an armchair designed for J. Collins & Sons by Norman Slater, £9 15s. 0d. This looks the epitome of friendly ease. 2, Conran dining chair, £4 16s. 3d. 3, an Italian dining chair on sale at Peter Jones, 10 guineas. 4, low chair by John Bray, £11 10s. The iron frame is

[continued on page 341

continued from page 340]

marketed with either canvas or wicker filling. The canvas is the more comfortable, yet aesthetically the wicker wins. Why? 5, Conran's stool has his usual quality of making the rectangle look more simply rectilinear than usual. 6, the stool by Magpie Furniture has a nice linear air, and its lower stiffening more conveniently placed for the feet. It looks the more functional job, but only a welder will know how many welds go to the crossing on Conran's stool. Both stools sell at £3 10s. This stark blacksmith's furniture is right for now, because it is equally at home indoors or out. It restates the departure of the external wall, and that we intend to have sunlight and the pleasures of outdoors at our hearths, or a hearth outdoors if we wish it. This assertion is worth for us a considerable amount of upholstered comfort. Not for always, not perhaps for long, but for now. Because there are materials more durable and more resilient than cane, the present mode will pass. But there is about it a fineness and an elegance that give it a place in the English tradition. Mannered it well may be, but it is in the manner of the best architecture.

We now come to the furniture of cane structure which from the point of view of the caning industry is doing a more serious job. If we look at the two French chairs on sale at Peter Jones, and contrast the youthful 7, 9 guineas, with the dignity of the handsome Malacca, 8, 15 guineas, we get some idea of the possibilities of linear design in this medium. 9, the 'Shell,' £6 6s. 10d., and the 'Sugar-spoon,' £9 17s. 9d., and 10 and 11, all the work of Fritz Lang of Scotts, are chosen from an amazing variety of designs within quite a narrow range. There is plenty of scope here. The Italian dining chair at Peter Jones, 12, £10 19s. 6d., whether viewed as beautifully, or as hideously, frivolous gives further hints on the visual possibilities of cane construction.

J. Collins & Sons' cane lounge is an entirely new piece of furniture, 13. It can do the work of a bed while having the air of being no larger than a shelf, being largely transparent. Its unprecedented simplicity is the outcome of its novel construction. The caning is unrolled from the piece and applied by the yard, at a fraction of the cost of the traditional method, which is to do it direct on to a prepared frame. The cost of repairing is also fractional. Price £9.

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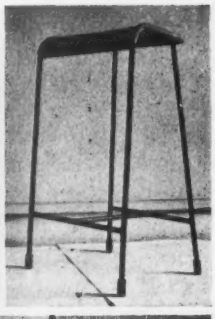
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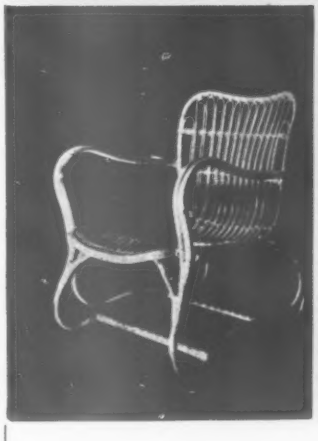
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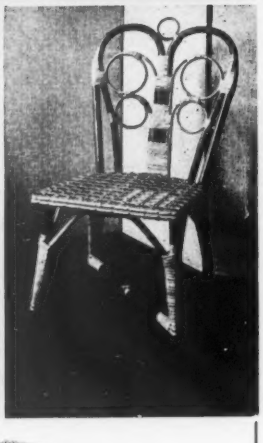
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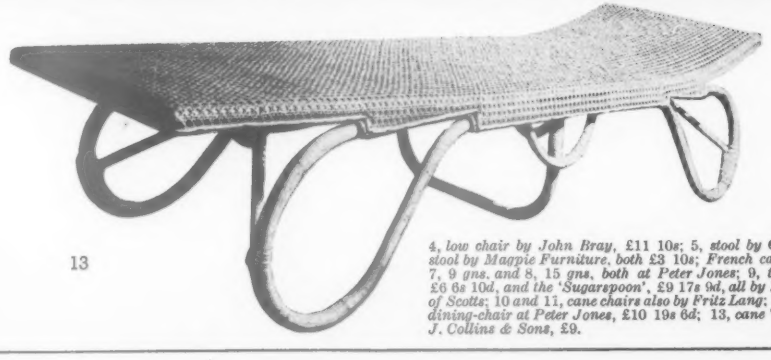
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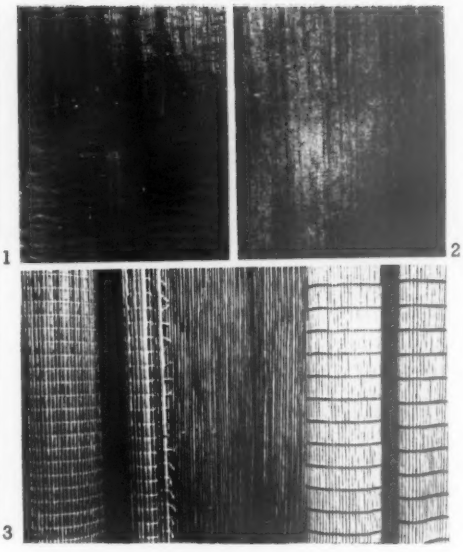
4, low chair by John Bray, £11 10s; 5, stool by Conran, 6, stool by Magpie Furniture, both £3 10s; French cane chairs, 7, 9 gns. and 8, 15 gns, both at Peter Jones; 9, the 'Shell', £6 6s 10d, and the 'Sugarspoon', £9 17s 9d, all by Fritz Lang of Scotts; 10 and 11, cane chairs also by Fritz Lang; 12, Italian dining-chair at Peter Jones, £10 19s 6d; 13, cane 'lounge' by J. Collins & Sons, £9.

WALL COVERINGS

Some of these materials now on sale at Primavera are imported from the far east; some are indigenous crafts here. The latter are more positive in design, but their uses are practically identical and they are equally welcome to those who understand the use of surface texture. That they are also extremely attractive to those quick to grasp inessentials need not worry us. When these modest and reserved materials are seen looking raffish or arty the failure, though frequent, is individual. Designing by means of textures is an integral process of spatial design. These hangings are as much a symbol of our architecture as the acanthus or the dog-tooth were of theirs. I take their popularity as a sign that this is coming to be widely though dimly understood.

These are two examples of Japanese grass cloths from the many available: 1, silver with satin finish £4 19s. per piece. 2, a wider cloth £4 1s. 9d. per piece.

3, left, rush and cotton fabric, 30s. per square yard; centre, straw and cotton, 30s. in natural, 32s. in colour; right, split cane and cotton, 37s. 6d. These materials can be woven in any multiple of 2 inch width from 12 inches up to 40 inches.



Wall coverings on sale at Primavera: 1 and 2, two Japanese grass cloths, 3, left, a rush and cotton fabric; centre, straw and cotton, and right, split cane and cotton.

3 TECHNIQUES

BUILDING EXHIBITION

by John Voelcker

This survey of the coming Building Exhibition is based on information available from the Exhibition Press Bureau and from the manufacturers themselves at the time of going to press. The selection of products has been as wide as possible but there may be omissions due to the fact that a number of the manufacturers approached had not yet completed their exhibition preparations or publicity.

The Building Exhibition is important for the manufacturer of building material for he can show his products with the assurance that many people will come with the intention of looking at them and that many more will stumble upon them by accident. It is equally important to the architect for he is able to see general trends and any changes in emphasis which have taken place over a period in the Industry on which he is dependent; developments over which he has little influence but which he can make positive use of once they have occurred. The Exhibition is being held at Olympia from the 16th to the 30th of this month.

In reading through the advance publicity for this year's Exhibition, a shift of emphasis is perhaps apparent, namely the development of products for use in large scale industrial buildings instead of the previous emphasis on domestic and small scale industrial and community building. Where they have been observed more detailed shifts of emphasis have been noted in the description of a particular group of products.

The products selected in this survey have been grouped into the categories of the 'Table for the co-ordination of Building Material' developed as a part of the Modular Co-ordination Studies being carried out by the British Standards Institution. At first sight some of the products may appear unsuitably grouped, but an underlying order, which extends from the basic raw materials of the building industry to complex multi-material assemblies reflecting the production sequence should become apparent on closer examination.

It is not generally known that each building exhibition has a theme. This year the theme chosen is timber, and therefore it is essential that an early visit be paid to the *Timber Development Association's* stand.

I. materials

A considerable number of already established and newly developed methods of protecting materials from corrosion and rot are exhibited.

For protecting metals *Corrosion Ltd.* show their recently developed Glopane cold galvanizing process. Glopane may be used as a dip for galvanizing small metal components or it may be applied with a brush or spray on site to components which are too large to be dipped; a variant of the solution called 'wet Glopane' can be applied in humid situations to wet metal and even, the makers claim, to structures which are frequently submerged. Such a product is of considerable value for patching up faulty galvanizing.

The *Inertol Co. Ltd.* exhibits products for the protection of concrete and steel structures. Two types of protective treatment for concrete surfaces are available: one bituminous and the other enamel. In either case a primer is applied first which fills up the surface pores in the material. The surface bituminous or enamel coat is waterproof, abrasive resistant, and at the same time sufficiently flexible to accommodate thermal movement in the concrete.

For the protection of wood the *Galkwey Chemical Co. Ltd.* describe their Protim service which has been built up to deal with timber defects such as dry rot and woodworm. The product Protim complies with the requirements of BS.838 and 1232, and besides its surgical application to existing structures it may often be worth the additional cost for an architect to specify that new timber shall be impregnated before being delivered to the contractor.

Of products which speed up or improve construction time are two of interest: the first is a concrete curing compound manufactured by *Sealocrete Products Ltd.*, which is either brushed or sprayed on to concrete when it has been placed, and the manufacturers claim that the concrete will retain its maximum water content for at least seven days, thus ensuring complete hydration, that it will have increased strength, and that the surface will be free from cracks and crazing usually caused by too rapid drying out. The same firm manufacture a mortar plasticizer; the advantage of such plasticizers is that lime can be eliminated from the mortar without having to increase the cement content. It is claimed that mortars containing plasticizers are easily worked, and, despite the elimination of lime, they do not crack as severely as cement mortars. A similar product is manufactured by the *Pyrene Co. Ltd.* who also show a process for the construction of light-weight concrete; a great variety of densities meeting a number of special requirements are marketed.

Among paint manufacturers are *International Paints Ltd.*, exhibiting at Olympia for the first time; *Jenson & Nicholson Ltd.* who show their extensive range of Robbialac colours and finishes; and *T. & W. Farmiloe Ltd.*, who have added a power-driven paint roller to their range of decorators' tools. *Aero Research Ltd.* describe the numerous applications of their adhesive compounds. The development of adhesives has been rapid and is of considerable importance in even the smaller types of building operation because many contractors are now making use of specialist joinery firms who have the plant for

[continued on page 343

Falkirk hat trick at London Airport

The whole London Airport new-building scheme is awe-inspiring in its vastness and luxury. It is estimated that, by 1960, London Airport may well be coping with 3½ million passengers a year . . . about 9,500 each day. Every provision is being made for the comfort of passengers and staff . . .
. . . and that's where Falkirk comes into the picture . . .

FALKIRK proudly announced that the Ministry of Civil Aviation had awarded to them the contract for the installation of cooking equipment in the impressive Control Tower—a kitchen serving two canteens.

Once again, FALKIRK was specified: this time for another gigantic task. Cooking equipment for the passenger building which involves . . .

* on the first floor: a transit restaurant, a lounge and buffet bar, and a nursery.
* on the second floor: a restaurant for spectators, a buffet and licensed bar, a staff snack bar and beer garden.
* on the third floor: a cafeteria restaurant, a tea room and yet another bar!
* all these with serveries connected by a battery of lifts to the main kitchen on the ground floor.

Hat trick complete

And now, Falkirk is proud to have been awarded the contract for the installation of their equipment in the third huge London Airport building for the use of spectators, aircraft captains and crews.

N.B. To architects and others concerned with cooking equipment:
"Modesty forbids, but perhaps . . . we admit . . . there might be a very good reason for our Hat Trick."

Whatever the fuel, whatever the size of your problems, Falkirk are delighted to give advice.

Client: Ministry of Transport & Civil Aviation (*Air Ministry, Director of Works*)
Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.
Consulting Engineer: Sir William Halcrow & Partners
Main Contractor: Taylor Woodrow Construction Ltd.

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machining timber joints in which modern synthetic resin adhesives are more effective than the older types of carpenter's glue.

II. sections

This category of material includes all the simply manufactured components: flat sheets, tubes, extrusions and rolled sections. The number and variety of sheet materials available outweigh other products and frequent reference is made in manufacturers' literature to their suitability as infilling to curtain walling discussed in part V. of this survey.

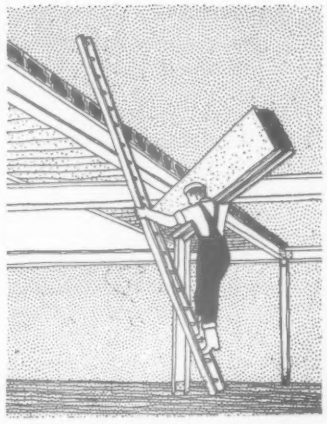
Fibreglass Ltd. show their mats for thermal and acoustic insulation. Particular attention is drawn to ways and means of insulating water services in domestic roof spaces: a precaution all too frequently omitted in current building practice.

Another group of protective sheeting is exhibited by *J. H. Sankey & Son Ltd.* This group contains the various types of Sisalkraft waterproof building paper. In particular two metal faced types are shown: the first is a copper armoured sheet or strip suitable for damp-proof membranes or courses, the second a reflective insulating sheet known as Sisalation in which burnished aluminium is bonded on one or both sides of a 6-ply reinforced Sisalkraft sheet.

Numerous wallboards are shown. *Masonite Ltd.* manufacture a stove-enamelled sheet ¼ inch thick which provides an excellent cheaper alternative to glazed wall tiling if the fixing back of the sheets can be mastered. The concessionaries of the Belgian firm *Glinex, Gliksten Building Materials,* manufacture a useful board from the hitherto wasted residue of flax crops. Glinex boards are made in several densities and thicknesses which may be used in combination with other facing sheet materials in the construction of doors, walls, ceilings and floors, or it can be used on its own as permanent shuttering. A useful partition board known as Paramount Dry Partitioning is manufactured by the *British Plasterboard (Manufacturing) Ltd.*; it is made up of two sheets of Paramount wallboard separated by a fibrous 1½ inch square egg-crate, is supplied in two thicknesses, 2½ inches and 2½ inches, and is easy to erect. A strong sheet material is produced by *Airscrew & Jicwood Ltd.* It is a lightweight chipboard with a smooth-sanded face, accurate dimensions and a bending strength of 3,000 p.s.i.

Similar to the Paramount partition *Gyproc Products Ltd.* show their Gypunit panels which may be built up into double leaf partitions with a high degree of sound insulation. A particularly interesting panel is exhibited by *Petradene Ltd.*, it is called the Superpanel and consists of a sheet of corrugated asbestos with hardened plaster bonded to both sides; besides the qualities such a combination of materials would possess the panels can be fabricated on site without elaborate or expensive preparation. *The Universal Asbestos Manufacturing Co. Ltd.* feature their Batten Decking developed for a school's building programme, and their Hollow Decking (Fig. 1), the sections of which are formed so that the deck units nest neatly into one another. Another useful asbestos product, Asbestospray, is exhibited by *William Kenyon & Sons Ltd.* who also show their range of Rocksil, Vermiculite and cork products.

Among boards for external use, *Turners Asbestos Co.* have developed



1, *Hollow Decking by the Universal Asbestos Manufacturing Co. Ltd.*

a 3¾ inch deep corrugated asbestos sheet called Doublesix which spans 6 feet 6 inches. The *Cape Asbestos Co. Ltd.* have a slightly curved sheet spanning 4 feet. Three new developments of the Bellrock panel manufactured by *The Bellrock Gypsum Industries* are shown: a waterproof facing, an improved method of joining the panels which speeds up erection time, and the inclusion of preformed load-bearing channels. These panels have a structural safety factor of 12 and a 2-hour fire rating.

Two roof-lighting sheets are shown: one a resin-bonded glass fibre corrugated sheet made by the Galt Glass Division of *Durasteel Ltd.* and selling more cheaply than other plastic types, and the other a corrugated ¼ inch plate glass sheet ribbed internally to diffuse the light and reinforced with a 1 inch square wire mesh manufactured by *Corroglaze Ltd.*

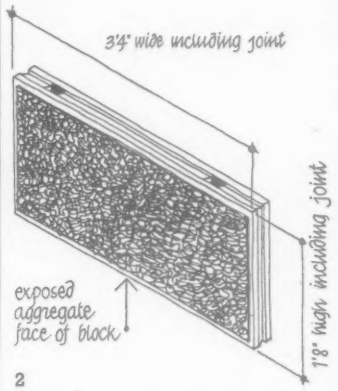
An important group of sections, plastic service pipes of alkathene and polythene, should be noted, but very little pre-Exhibition information is available on these. The *Yorkshire Copper Works* show polythene tubes suitable for cold water services and polythene tubing suitable for laying below ground, and by means of a tractor-drawn mole plough which reduces the laying time considerably. *Shires* manufacture alkathene tubing for cold water services known as Shirene, and the *Marley Tile Company Ltd.* exhibit their Marleythene polythene tube.

The Linoleum Manufacturers Association besides showing a comprehensive collection of linoleums show the application and methods of fixing linoleum to both floor and wall surfaces. *Pilkington Brothers* have a model of their Soho A.D. 2000 project on show.

III. units

Not long ago this category contained a great number of building components, but each year the number of units exhibited decreases while the number of sheets and sections on one hand, and the more complex assemblies on the other, increases.

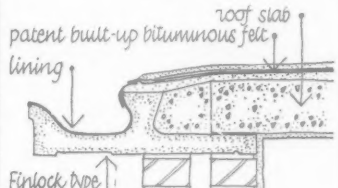
Bricks, always difficult to display in a manner which gives any real idea of their appearance, are exhibited by the brick manufacturers with no particularly startling developments. The *Leeds Fireclay Co. Ltd.* construct part of their stand of hollow blocks which are supplied in a number of sizes and are glazed on either one or both faces. *Celcon Ltd.* exhibit their cell concrete slabs available for roof and floor construction in four standard lengths, 18 inches wide, and reinforced to meet particular requirements; the slabs may also be obtained in any desired length up to 10 feet. A concrete cladding slab with exposed aggregate finish is manufactured by *John Ellis & Sons Ltd.* (Fig. 2).



2

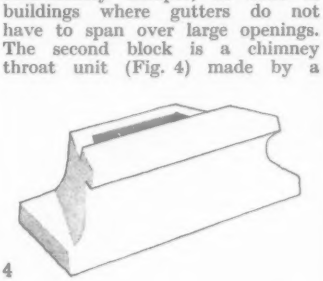
This slab conforms with the 4 inch-40 inch module favoured by the Modular Society Ltd. A useful leaflet published in the Modular Catalogue gives information regarding fixing and tolerances.

Two special purpose block units are worth noting: the *Finlock* gutter (Fig. 3), a neatly contrived unit



3

which can be used to drain either flat or pitched roofs; the manufacturers have prepared several comparative costs with more conventional eaves details and it would seem that the Finlock gutter is considerably cheaper, at least in buildings where gutters do not have to span over large openings. The second block is a chimney throat unit (Fig. 4) made by a



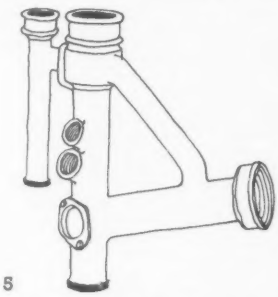
4

member of the *Finch Organisation;* the manufacturers claim that at least 17 per cent more heat is retained in a room when the chimney is unrestricted. Furthermore, the unit provides good protection to the fireplace surround which has become liable to disfigurement on account of the increasing popularity of high-graded slow-burning fires.

Floor tiles suitable for all kinds of wear are exhibited. To select a few of these, *J. H. Sankey & Son Ltd.* manufacture an acid and alkali resistant vitrified buff tile. For lighter use a new vinyl asbestos tile called Accoflex has been made by the *Armstrong Cork Co.;* the colours are good and insets, for instance, number or letter directions, can be cut and incorporated in the floor surface. *Michael Nairn & Co. Ltd.* exhibit their range of vinyl tiles and have prepared a handsome brochure which describes the characteristics, testing, installation and maintenance of their floors.

The Marley Tile Company in addition to the polythene tube already mentioned show their Standard Marley, Marleyflex, and their new range of Harlequin thermoplastic floor and wall tiles. Gordon Cullen has designed the stand for the *Carter Group* on which the manufacturers show how their tiles will combine with numerous common building materials. The *Dunlop Rubber Company* show different types of thermoplastic tiles and rubber flooring, among the rubber tiles are the useful ribbed and studded kinds.

There have, in recent years, been many innovations in units designed as part of the water services of buildings. In particular several firms have developed units which simplify the junction between sanitary fitting wastes and the main vertical disposal system. This year *B. Finch & Co. Ltd.* describe their Spruce-Thrower (Fig. 5) soil and waste pipe fitting.



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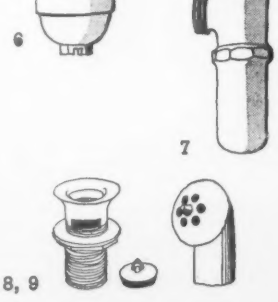
The purpose of this unit is to simplify the bundle of connections usually made when an anti-syphonage system is necessary. Although the unit is still a little cumbersome in appearance it is very adaptable and the saddle by-pass arrangement and the soil stack are ingenious.

A number of units connected with water services within buildings are exhibited: for example, the aluminium plated zinc Sidleen lavatory basin bottle trap manufactured by *Associated Brassfounders Ltd.* (Fig. 6). A similar bottle trap of good line is exhibited by the *Barking Brassware Co. Ltd.* (Fig. 7) together with their goblet waste (Fig. 8), easily cleaned and stain reducing, and their bath overflow fitting (Fig. 9). Among the water supply fittings



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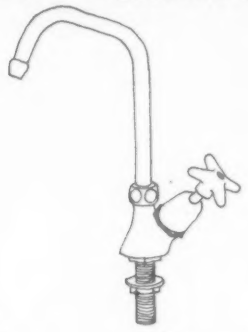
included on the Barking Brassware stand are their Hi-Flo sink pillar tap with swivel arm (Fig. 10) and a new item consisting of a shower fitting (Fig. 11) connected to the



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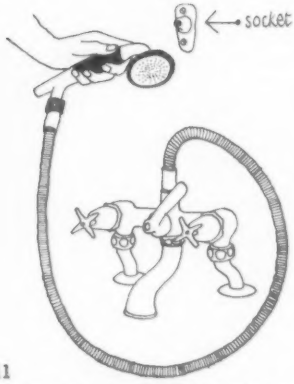
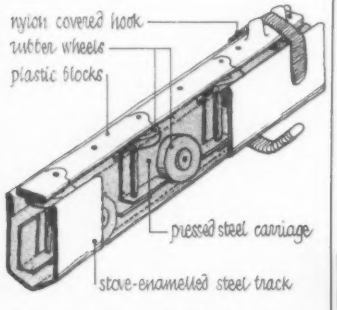


11

mixer unit by a flexible pipe and located as an overhead shower at two points by a socket fixed to the wall above the bath. This is both cheaper and more versatile than the usual fixed pipe shower unit. Barking Brassware cannot be left without some praise for the detailed design of each fitting, the high quality of which justifies their slightly above average cost.



12 "cut-away" section of part of track

Rowe Bros. & Co. Ltd. exhibit the Sloan Royal Flush Valve, the only diaphragm type to be manufactured in this country.

A compactly designed and quiet curtain track suitable for hospital cubicles and similar situations is the Panther Track (Fig. 12), manufactured and shown by *J. Avery & Co. Ltd.* who also show their Sungear venetian blind in which the cord control normally used by the firm is replaced by a robust rod action.

IV. assemblies

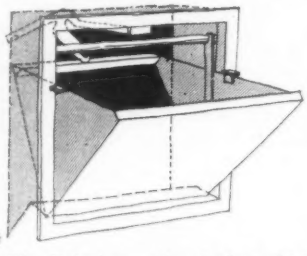
To begin with simple assemblies exhibited: *Adamsez* stand contains the frequently illustrated range of cleanly designed sanitary equipment. The Lotus basin (Fig. 13), reminiscent of the earliest products of the firm, has few equals despite the meanness of ledge space for soap.

13, *Lotus basin by Adamsez Ltd.*

Adamsez sanitary ware can be obtained with Barking Brassware fittings. Comparable in design and technically interesting are the Lynx and Duranite Reverso cisterns manufactured by *Shires & Co. (London) Ltd.*, who also show an alkathene cold water tube noted earlier in this survey.

Among the many products manufactured by *Ideal Standard* are their sanitary fittings, it is regrettable that some of the designs for sanitary ware developed recently for the firm in Italy are not yet available in this country. *Shanks and Co. Ltd.* exhibit some cleanly designed and robust looking ware, in particular their Marnock lavatory basin is to be commended.

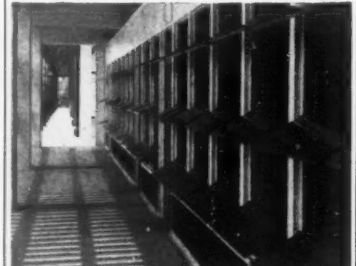
A much needed component is manufactured by *B. Finch & Co. Ltd.*, a robust fuel hopper (Fig. 14)



14

with efficient operating devices which do not obstruct the delivery of fuel. Because the hopper aperture is not large, however, care must be taken to build the unit into the fuel store at the correct height.

As usual there are numerous developments and refinements in the manufacture of windows. Particularly in evidence are those designed for the overseas market. *Henry Hope & Sons Ltd.* show a type of louvred window developed for the Kumasi College of Technology (Fig. 15). *Crittall Manufacturing*



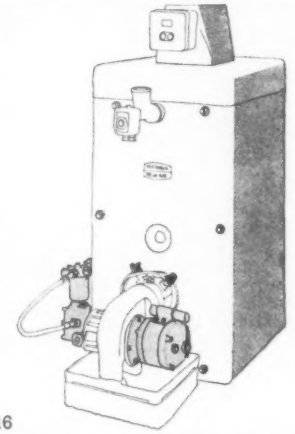
15

Co. show a special assembly of external sunbreakers and natural fly screens which is being supplied to the palace of Baghdad. For home use a timber double-glazed assembly is manufactured by the *Tomo Trading Co. Ltd.*, and *Quicktho* (1928) *Ltd.* exhibit a horizontally sliding aluminium window.

On the group of more complicated assemblies the heating equipment on show reveals interesting developments. Little information has been received on oil-fired boilers, though what is exhibited should be noted since fuel delivery arrangements, a previous drawback to oil fuel, have improved over the last year.

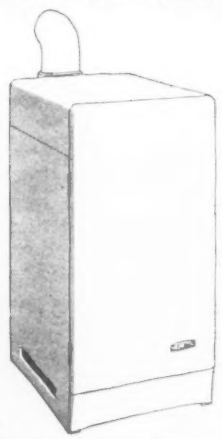
A purpose built oil-fired boiler of the pressure jet type is exhibited by *Watts Automatic Boilers Ltd.*

Glow-worm Boilers Ltd. have two burners: one a natural-draught model rated at 25,000 BTUs, and the other a forced-draught model rated at 50,000 BTUs. A larger burner and boiler assembly with a pressure jet is manufactured by *Thomas De La Rue & Co. Ltd.* This assembly is an extension of the well-known Potterton range of boilers and is known as the Doa series (Fig. 16).



16

Two ratings are at present available, 108,000 BTUs and 216,000 BTUs, and two further ratings, 252,000 BTUs and 288,000 BTUs, will be available in a few months. In addition to the oil-fired assemblies Thomas De La Rue show a new Diplomat domestic gas-fired boiler rated at 46,000 BTUs (Fig. 17), a quantity



17

of heat adequate for space heating and hot water supply in a medium sized house.

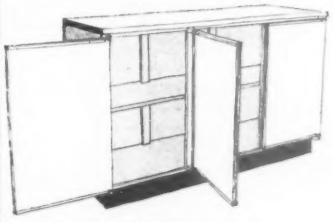
Other boilers and heating appliances are exhibited by *R. Taylor & Co. (Ironfounders) Ltd.*, manufacturers of the Tayco solid fuel boilers; *Sidney Flavel & Co. Ltd.*, who show a gas-heated clothes dryer large enough to take an average week's wash; Aga Heat Ltd. display the new 30-80 Agamatic which provides ample heat for domestic hot water and central heating in a medium sized dwelling.

A line of development to be watched with particular interest is the heat pump, two of which are shown at the Exhibition, a small one by *Ferranti Ltd.* and a larger assembly manufactured by *Brentford Electric Ltd.* The capital cost of installation is approximately the same as the smaller types of oil burner units and running costs are claimed to be very low. Both manufacturers have comprehensive technical information and technical representatives are available to describe the detailed characteristics of each assembly.

18

Among other assemblies exhibited are the *Ascot* 715 multipoint gas water heater which is shown in operation, a *Stelrad* oil filled thermostatically controlled electric radiator, and an acoustically absorbent 'telephoning hat' produced by the *Burgess Products Co. Ltd.* (Fig. 18).

Ezee Kitchens Ltd. exhibit a number of kitchen fittings including sink units with Hoover washing machines built in. Of particular interest and shown on *Froy's* stand are the Storemaster kitchen cabinets (Fig. 19) manufactured by the *Clive*



19

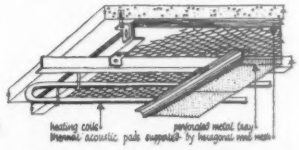
Development Company Ltd. and designed by Clive Entwistle; judging from the specification these cabinets will have a remarkable performance, and judging from the photographs their appearance is most satisfactory, their stressed skin construction is worth particular attention.

V. functional components

This group of products grows larger every year. Many of the products are combined efforts by a number of specialist firms. It is in this group that the advanced technological research is most apparent.

Closely connected with the heating assemblies described in the last group are heating systems available. *Crane Ltd.* are showing their skirting heating system, a mode of space heating extensively used in the United States where it is known as 'baseboard' heating, and recently used experimentally in this country. The system comprises a No. 3 New Carlton Boiler with 6 inch high radiant panels and 9 inch high panels which both radiate and convect heat. By records available this mode of heating is very satisfactory, but adequate free skirting surface is not always available.

The *Burgess Products Co. Ltd.* and *Sulzer Bros.* have combined to



20

produce the Burgess-Sulzer Heated Acoustic Ceiling (Fig. 20) in which perforated metal trays filled with sound absorbent material are

[continued on page 346

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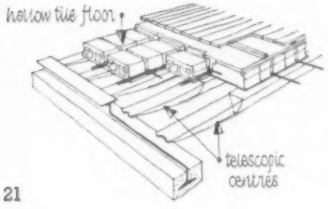
continued from page 344]

suspended from T-sections; coils of heating pipe are fixed above these panels and beneath a thermal acoustic pad fixed up to the structural ceiling soffit by means of chicken wire. Water is circulated in the pipes at temperatures between 170°F. and 185°F. and the heat from the pipe is transmitted to the metal ceiling panel from whence low temperature radiation heats the space below. Temperature gradients are very small and this system, once installed, is economic to run. Originators in this country of the metal ceiling panel incorporating a heating system were *Frenger Ceilings Ltd.* whose Frenger system is now widely known and used and will be exhibited.

An interesting ceiling, not incorporating heating, has been developed by the *Cape Asbestos Co. Ltd.* It is a removable suspended ceiling weighing just over 2 lb./sq. ft., yet it provides a 4-hour fire protection to floors. The trade name of this ceiling is Modulux, and it consists of Asbestolux panels above which is laid a Rocksil rockwool mat. The manufacturers suggest that such a system has application to high buildings in which high fire resistance is required yet lightness is a structural necessity.

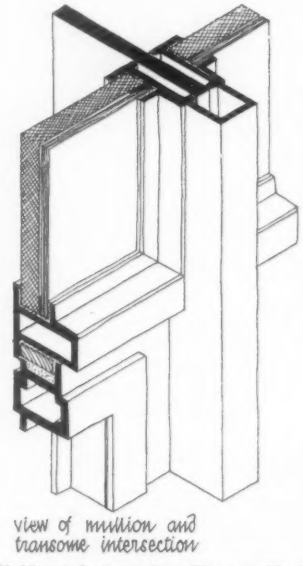
A heavier fireproof floor is the well-known *Smith's* fireproof floor (Fig. 21) which can be used in numerous situations; in addition the use of Trianco telescopic centres leaves the space below a newly laid floor unobstructed for the other building trades involved in the construction of a building.



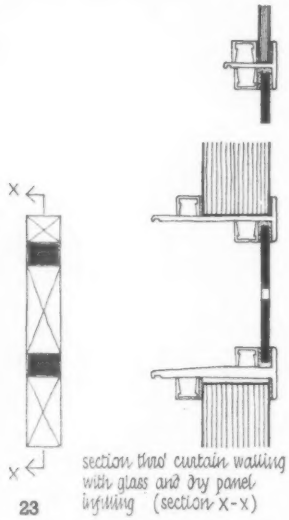
21

Pierhead Ltd. exhibit their prestressed flooring, among the exhibits are sections cut through the prestressed joists which show the large size of aggregate used and the high degree of compaction achieved.

In the last two years much thought has been given to the subject of curtain walling, a system of cladding used extensively in the United States but late to arrive in this country. Of the types exhibited the *Crittall Manufacturing Company* show their Fenestra wall, *Henry Hope & Sons Ltd.* their Windogrid, *Williams & Williams Ltd.* their Wallspan, *John Williams and Sons Ltd.*, manufacturers of Jonwindows, their curtain walling assembly (Fig. 22), and *Quicktho* (1928) *Ltd.* their Windowall (Fig. 23). The latter is constructed of aluminium alloy, contains sliding windows, top hung vents and infilling sheets up to 2 inches thickness; the manufacturers claim that it has good weather resistance combined with ample dimensional allowance for thermal movement.



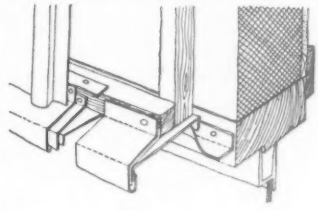
22, *'Jonwindow' curtain walling assembly, by John Williams & Sons Ltd.*



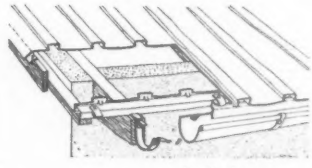
23

In the field of general sheet cladding systems *Nuralite Sales Ltd.* display their Nuralite consisting of laminated asbestos sheets bonded with bitumen. This sheet is easily worked by cutting and formed by applying heat. It makes an economic and rapidly applied roof covering.

The stand of *S. W. Ronald & Co. (London) Ltd.* should certainly be visited. Their Fural 24 gauge aluminium wall cladding (Fig. 24) and 22 gauge roof cladding (Fig. 25) are fully described in broehures. Later the firm intend to manufacture a copper sheet for roofing which fixes down to the cladding structure in the same simple and ingenious manner as the aluminium sheet.



24 detail at window head



25 detail of eaves

A very full selection of sliding door and screen components are to be seen on the stand of *Clarke Ellard Engineering Co. Ltd.*

[Trade note and Contractors on page 348

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NEUCHATEL

Tibor

Tibor Reich, F.S.I.A., has designed a number of new deep textures and textured drapes for Tibor Ltd., Stratford-on-Avon. These new fabrics, blended with 'Ardil' fibre, have a warm, soft silk-like touch and yet are extremely crisp and durable. I.C.I.'s protein fibre 'Ardil' has been blended with wool and cotton to give added physical and visual properties. The illustration shows the 'Pavona' Chair designed by Howard B. Keith, M.S.I.A., available from stockists of H.K. furniture throughout the country. The upholstery is Tibor's 'Leonora' in shades of Natural deep texture fabric with an 'Ardil' blend. The outside of the chair is in Crimson 'Leonora' interwoven with Lurex non-tarnishing metallic thread. The smaller illustrations show H.K.'s 'Pegasus' Chair attractively upholstered with Tibor's 'Leonora' 'Ardil' fabric in shades of lemon on the inside and deep purple on the outside.

this tibor upholstery texture is blended with 'Ardil' fibre

continued from page 346]

4 THE INDUSTRY

'HARDEC'

Latest in the list of patent hardboards is 'Hardec', produced by the Airscrew Company and Jicwood, of Weybridge, Surrey. These manufacturers are perhaps better known as the makers of 'Weyroc' timber, and claim their new product to be proof against warping and buckling, and resistant to minor burns, weak acids, stains, abrasions, etc. It is a melamine plastic-surfaced hardboard, $\frac{1}{8}$ inch thick and best glued with 'Forpil.' 'Hardec' can be worked like ordinary hardboard, offers a choice of five different shades, and is available in 8 feet by 4 feet by $\frac{1}{8}$ inch nominal sheets at 3s. 6d. per square foot.

Admirable as this board may be for walls and ceilings, panels, partitions, doors and furniture, it is unfortunate that the manufacturers find it necessary to disguise the finish by incorporating colourful linen prints on the plastic surface. Plastics are apparently another of those materials which the public uses, but prefers not to recognize.

'Forpil' is marketed by the Central Chemical Company, 24, Southwark Street, S.E.1.

CONTRACTORS etc

Hotel at Istanbul, Turkey. *Bedroom and managerial office furniture:* Hille of London Ltd; *kitchen equipment:* Benham & Sons; *carpet fitting:* Maple & Co.

College at Pershore, Worcs. *Architects:* Richard Sheppard & Partners. *Contractor for houses, pump house, electric sub-station and sewage disposal unit:* A. Pettifer Ltd. *Contractor for greenhouses:* Duncan Tucker (Tottenham) Ltd. *Electrical contractor for main cable and sub-station:* F. H. Wheeler & Co. *Irrigation:* Bomford Bros. Ltd. *Contractor for main institute, i.e. hostel, laboratory, Avonbank and kitchen blocks:* Wheeler & Mansell. *Sub-contractors: slate and tile roofing:* Broadbent & Co. *Asphalte:* Neuchatel Asphalte Co. *Felt roofing:* William Briggs & Sons Ltd. *Heating, hot and cold water services:* Weatherfoil Heating Systems Ltd. *Electrical installation:* Booth & Bomfords. *Metal windows:* Monk Metal Window Co. *Joinery:* H. F. Tottle & Sons. *Plastering:* Brooks, Evesham. *Painting:* Redfern, Evesham. *Flooring:* Hollis Bros.; Korkoid Decorative Floors Ltd. *Wall tilings:* Venetian Flooring Co. *Cloakroom equipment:* A. J. Binns Ltd. *Balustrading:* J. F. Pearson Ltd. *Firefighting equipment:* Merryweather & Sons. *Steelwork:* Matthew T. Shaw & Co. *Suppliers: slate cills:* Bow Slate & Enamel Co. *Ironmongery:* Alfred G. Roberts Ltd. *Paint:* Blundell, Spence & Co. *Stone:* Hornton Quarries Ltd. *Sanitary fittings:* Timmins & Foulkes, Ltd. *Light fittings:* Falk, Stadelmann & Co.; Troughton & Young (Lighting) Ltd.; Courtney Pope (Electrical) Ltd.; Merchant Adventurers of London Ltd.; The General Electric Co. *Bricks, blue brindles:* Pratt (Watford) Ltd. *Prestressed floor beams:* Concrete Development Association.

House at Esher. *Architects:* Devereux & Davies. *General contractors:* W. H. Gaze & Sons. *Sub-contractors: windows:* P. G. Allday & Co. *Sliding wall to living room:* Walter F. Baker, Ltd. *Sliding door gear:* E. Hill Aldam & Co.; British Trolley Track Co. *Roofing:* William Briggs & Sons. *Sanitary fittings and tiling:* Builders Merchants (London) Ltd. *Flooring:* E. J. Elgood, Ltd. *Door furniture:* Yannedis & Co. *Paints:* Permoglaze, Ltd.; Thos. Parsons & Sons. *Heating and domestic hot water:* Broads, Ltd.; Radiation Group Sales, Ltd.

Secondary School at Catford, S.E.6. *Architects:* J. L. Martin, Architect to the LCC. *Architect in charge:* W. J. Smith. *General contractors:* Thomas & Edge. *Sub-contractors: tanking and roofing felt:* Excel Asphalte Co. *Bricks (Flettons):* Eastwoods Ltd.; (*Warnham Commons*) Sussex & Dorking United Brick Co.; (*stock*) C. Burley Ltd.; (*white facings*) McCarthy & Sons. *Structural steel:* Hills (West Bromwich) Ltd. *Pressed steel door frames:* Crittall Manufacturing Co. *Reinforced concrete flue:* J. L. Kier & Co. *Lightning conductor:* W. Larkins. *Partitions (Bellrock):* John Kent (London) Ltd. *Glass:* Plyglass Ltd. *Curtain wall glazing:* Hills (West Bromwich) Ltd. *Glazed hood in kitchen:* Mellowes & Co. *Hard wood block and strip flooring:*

[continued on page 350

Where decisions are made

Dignity combines with originality of design in the boardroom of John Laing and Son Limited, recently furnished by Heal's Contracts Ltd., in collaboration with the architects Messrs. Adam, Holden and Pearson F/FRIBA.

The panelling and table-top are in Queensland maple; the table-frame and blue hide-upholstered chairs are of dark mahogany; and the door is covered with yellow leather. Rust carpeting, yellow curtains, and a light-fitting, specially designed in yellow and white, complete the setting.

If you would like to see more of Heal's recent work for boardrooms and offices, our illustrated booklet *Furniture For Special Needs* is available to architects.

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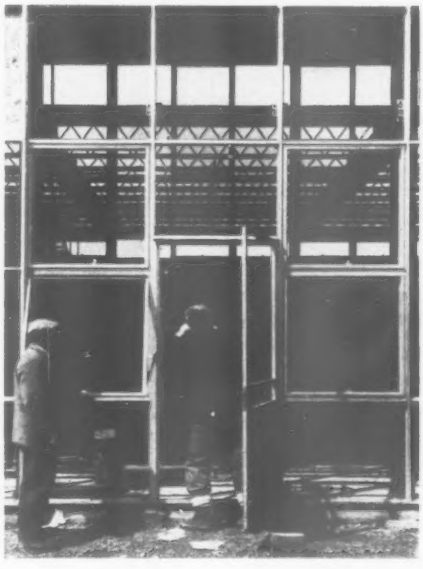

L. C. Lomas, F.R.I.B.A.
County Architect for Worcestershire

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continued from page 348]

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London Airport, S. E. Face Passenger Handling Building. *Architects:* Frederick Gibberd and G. W. Dunton. *Responsibility for construction:* Director-General of Works, Air Ministry. *Consulting engineer: steelwork and foundation, structural and reinforced concrete:* Sir William Halcrow and Partners. *Heating and ventilation:* G. H. Buckle and Partners. *Electrical:* Ewbank and Partners. *General contractors: steelwork:* Redpath, Brown & Co. *Foundations and building work:* Taylor Woodrow Ltd. *Sub-contractors: plastering:* J. & B. Abbott (Contractors) Ltd. *Special metal windows:* Aygee, Ltd. *Special joinery:* D. Burkle & Son. *External ventilation louvres:* Frederick Braby & Co. *Mirrors:* James Clark & Eaton. *Special patterned and coloured tiles:* Carter & Co. (London). *Artificial stone:* Cooper, Wettern & Co. *Fire-resisting doors:* Curfew Doors and Shutters, Ltd. *Metal hangers:* Clark, Hunt & Co. *Cork insulation:* Cork Insulation and Asbestos Co. *Acoustic false ceilings:* Horace W. Cullum & Co. *Strong room door:* Chatwood Safe and Engineering Co. *Structural floors:* Concrete Ltd. *Waste plumbing:* Dent and Hellyer Sanitation, Ltd. *Fibre board false ceilings:* John Dale, Ltd. *Sun blinds:* Deans Blinds (Putney) Ltd. *Fibrous plaster and special joinery:* David Esdaile & Co. *Metal screen to refuse rooms:* W. H. Earley Ltd. *Electrical installation to conveyor belt:* Electrical Installations, Ltd. *Cork flooring:* E. J. Elgood, Ltd. *Patent glazing:* Faulkner Green & Co. *Kitchen equipment:* The Falkirk Iron Co. *Sanitary fittings:* J. S. & F. Folkard, Ltd. *Ironmongery and balustrading:* James Gibbons, Ltd. *Flooring to customs halls:* The Granwood Flooring Co. *Artificial stone flower boxes:* Girlings-Ferro-Concrete Co. *Plastering:* A. Horrocks & Sons and Hill Bros. *Sliding door gear:* E. Hill Aldam & Co. *Double glazed 'Carda' windows:* Holcon, Ltd. *Heating and ventilation and plumbing:* G. N. Haden & Sons. *Dome lights:* T. & W. Ide, Ltd. *Terrazzo paving:* Jaconello, Ltd. *Underfloor telephone ducting:* Key Engineering Co. *Electrical installation:* London Electricity Board. *Steel balustrading:* Light Steelwork (1925) Ltd. *Terrazzo and w.c. partitions:* Mosaic and Terrazzo Precast Co. (Staines). *Lifts:* Marryat & Scott, Ltd. *Bronze skirtings:* H. H. Martyn & Co. *Felt roofing:* Macartney, Ltd. *Limestone paving and marble:* Nine Elms Stone Masonry Works. *Asphalte:* Natural Rock Asphalte, Ltd. *Roof felt and paving:* Permanite, Ltd. *Sliding gates:* Potter Rax, Ltd. *Terrazzo paving:* A. Quiligotti & Co. *Rubber flooring:* Runnymede Rubber Co. *Accotile flooring:* Rowan & Boden Ltd. *Cork insulation:* Edward A. Sargent. *Conveyor belt insulation:* Sovex, Ltd. *Rolling shutters:* Shutter Contractors, Ltd. *Steel lath and bracketing for false ceiling to service road:* Steel Bracketing and Lathing, Ltd. *Escalators:* Waygood-Otis, Ltd. *Steel and aluminium windows to concourse:* Williams & Williams, Ltd. *Roof gardens:* R. Wallace & Co. *Wall tiling:* Zanelli (London) Ltd. *Metal face plywood:* Flexo Plywood Industries, Ltd. *Special joinery:* Harris & Sheldon, Ltd. *Removable metal partitions:* Ayrshire Dockyard Co. *Illuminated signs:* Acme Showcard and Sign Co. *Flagpoles:* John Edgington & Co. *Luggage racks:* General Construction and Engineering Co. *Pneumatic tubes:* Lamson Engineering Co. *Venetian blinds:* Crittall Manufacturing Co. *'Tudorstyl' facing bricks made by:* G. Tucker & Son, Loughborough, *and supplied by:* J. H. Sankey & Sons. *Hollow blocks, commons and keyed bricks:* London Brick Co. *Ventilation equipment to access tunnel:* Air Control Installations Ltd.

Announcements

The Partnership between Architects' Co-partnership and Mr. W. J. G. Godwin, who has been responsible for the Lagos practice, has been dissolved by mutual consent. Architects' Co-partnership will continue to practise from 1, Regis Aine Street, Lagos, Nigeria. (Private Mail Bag 2115.)

From 23rd September, 1955, the address of the Association of Building Technicians will be 1, Ashley Place, London, S.W.1; Telephone, VICtoria 0447-8.

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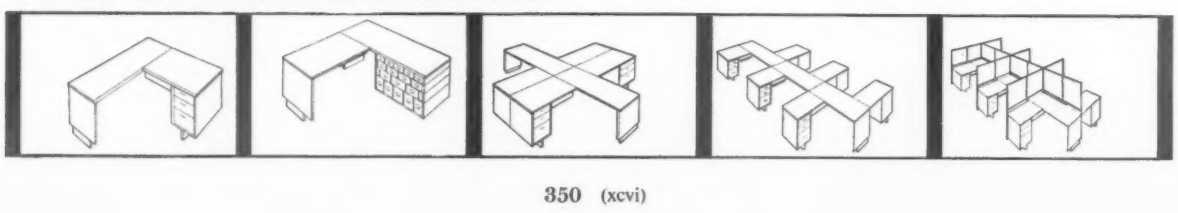

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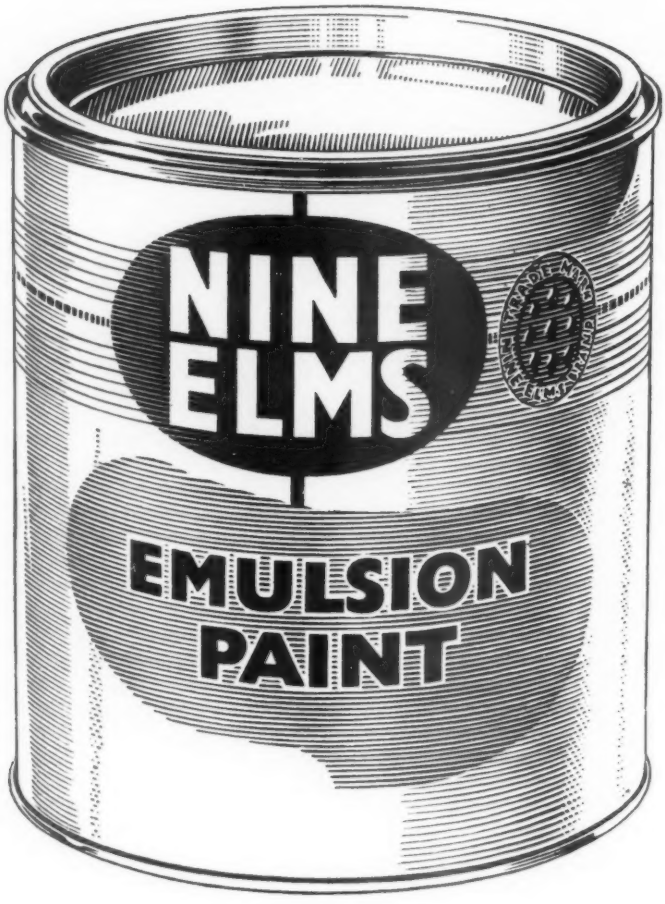
The Architectural Review Volume 118 Number 708 December 1955 Five Shillings

REGISTERED TRADE MARK NO. 1, and still a classic, the Red Badge of Bass was created in 1855 and this year the Bass label celebrates its centenary of unchanged use. Immortalized in Manet's Bar aux Folies Bergère, flattered by over 1900 imitations and secure in history as one of the most celebrated trade-marks in the world, it stands as more than a monument to a great brewer - it stands as a living contradiction of the glib fiction that eighteenth century taste was drowned in the vulgarities of the industrial revolution. A thousand examples exist of that commercial design tradition founded in the early nineteenth century of which the red triangle is a great but not isolated example. The tragedy is this tradition has lapsed; free enterprise is associated no longer with virile and noble symbols, but with cheap or facetious or genteel ones, and even firms with a background of history have switched to novelisms and banalities. More effective than highbrow evangelism today would be the resolve of industrialists to produce commercial art worthy of their traditions. If they want to know what those are let them look back to the impressive symbols, the fat-face types, the bold displays. Let them even resurrect some of them. Best of all let them hire designers capable of building on them.



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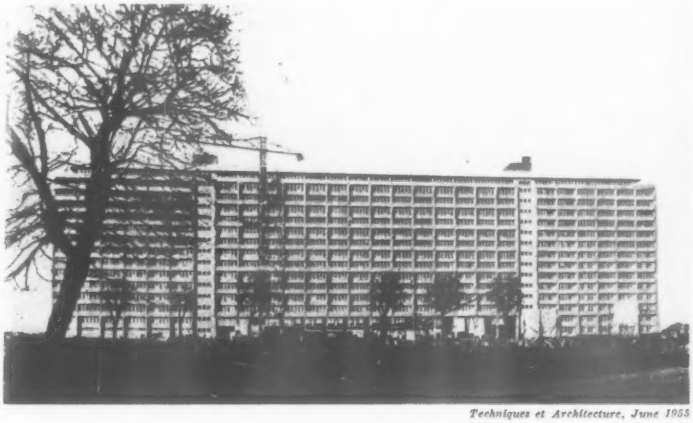
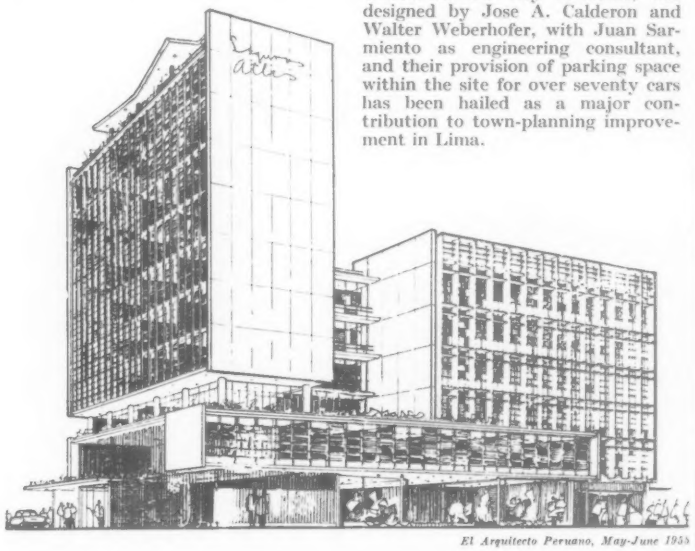
MARGINALIA

NON-CORBUSIAN UNITÉ. The mental climate in which Le Corbusier's *Unité* type of dwelling could become socially acceptable in France is better understood when it is realized that apartment blocks on the scale of Marseilles and Nantes are not an exclusive speciality of the master. The *Unité Billardon*, below (architect: Pierre Beck) outside Dijon is one of a number of blocks in different parts of France which offer comparable accommodation at comparable prices—the Billardon block, like the *Unité* at Nantes, comes within the scope of H.L.M. finance, contains 250 apartments of two, three or five rooms on fifteen floors and accommodates eight shops at ground floor level.



Techniques et Architecture, June 1955

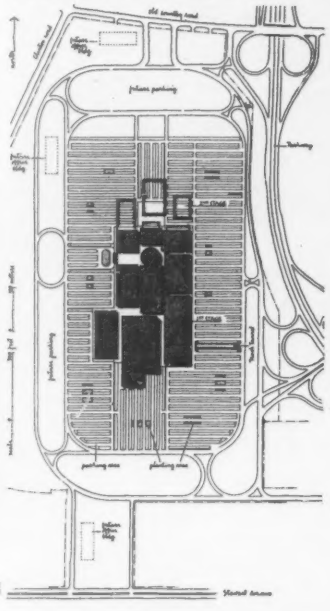
THE LATIN-AMERICAN MANNER. The 'Atlas' Building, in Lima, Peru, is not only one of the largest buildings of thoroughly contemporary design in the country, but also a striking example of the growing assimilation throughout the South American continent of the architectural idiom which originated with the Ministry of Education building in Rio. The building, which has been awarded the Gold Medal for Architecture of the city of Lima, was designed by Jose A. Calderon and Walter Weberhofer, with Juan Sarmiento as engineering consultant, and their provision of parking space within the site for over seventy cars has been hailed as a major contribution to town-planning improvement in Lima.



El Arquiteto Peruano, May-June 1955

DESIGN IN EXURBIA. The most important architectural consequence of motorized America's post-war flight from the cities has been the emergence of the exurban shopping centre as a differentiated building-type. Though it has yet to achieve a recognizable plastic shape, its plan-form is effectively typified by the Roosevelt Field (N.Y.) shopping centre project, designed by I. M. Pei Associates—a complex of buildings and piazzas on a pedestrian scale, surrounded by a vast acreage of parking space, ringed by a network of minor and major service roads effecting connection with the high-speed parkways and national turnpikes, 2. This particular project is also distinguished by an attempt to produce an orderly hierarchy of lettering to give a sense of character to the scheme, ranging from the Centre trade mark, 4, through systematized façade displays, 5, and building-identification signs to sign-posts and parking-lot boards, 3. Some evidence of deliberate townscaping is also apparent in the architect's announced intention of animating the pedestrian scene with fruit and flower carts, and news-stands, 1.

1



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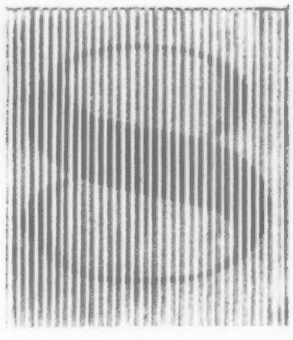

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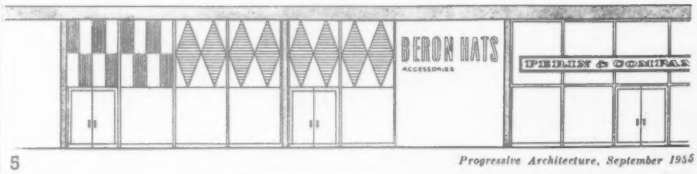

5

Progressive Architecture, September 1955

PLAY-SCULPTURE, ALTERNATIVE APPROACH. A valuable corrective to any tendency to establish premature norms or orthodoxies in play-sculpture design has been afforded by the unstable space-frames devised by students of the Princeton Architecture School under Joseph Brown, the assistant professor of sculpture. Unlike the play-sculptures devised so far (AR, August, 1954 and August, 1955) these do not offer the child a stable topological framework for the exercise of the imagination, but, instead, a state of continuously unpredictable responsibility, for any move by one child automatically upsets any other children involved in the cat's-cradle—admirable training for the Age of Anxiety.

Architecture Record, September 1955

SHELL-VAULTING IN MEXICO. Intended to replace the present dilapidated building which acts as the focus of the celebrated annual flower-show in Chapultepec Park, Mexico City, this proposed pavilion is another distinguished addition to Mexico's record of adventure in concrete. The engineer in this case is once again the remarkable Felix Candela (whose work was described in THE ARCHITECTURAL REVIEW for

September, 1953) assisted by Colin Faber, and he has been able to offer a vault thickness of only 4 cm. over a maximum span of over 150 feet. This, coupled with the fact that the three-gore hyperbolic paraboloid form of the vault is only grounded at three points, has enabled the architects, Wasson Tucker and Parente, to create an effect of poised lightness which they have been careful to retain by keeping the space under the shell as open as possible, and concentrating all permanent services under the subsidiary vault between the entrance and exit paths.

Fiske Kimball

John Coolidge, Director of the Fogg Museum, Cambridge, Mass., writes: Fiske Kimball who died in Munich in August was one of the most remarkable people in the world of art. Tall, unbending, brusque and dogmatic in speech, he had the energy, the determination and the assurance of a condottiere. When he became director of the Philadelphia Museum some thirty years ago he assumed responsibility for a new neo-classic monstrosity as vast as it was empty. Thereafter, during years of depression, years of war and years of boom he had to talk the sceptical city fathers into appropriating annually hundreds of thousands of dollars. With these he created a great and active educational institution inside the huge yellow shell. Since he was equally persuasive when dealing with millionaires he was able to fill his museum with an amazing series of works of art. The John J. Johnson Collection with its superb Flemish primitives was moved in almost at once. Next he raised more than a million pounds to purchase the Foule collection of Renaissance decorative art. He acquired so many mediæval statues and works of oriental art that two new wings had to be opened to accommodate them. Finally, by convincing Eugune Gallatin and the Walter Arensbergs they should leave his museum their paintings and sculptures, he obtained for Philadelphia what in range and quality is without doubt the greatest collection of twentieth century art anywhere in the world.

Fiske Kimball found his relaxation in scholarship. His initial research was in American architecture of the colonial period, and all his life he was active as a consultant in the restoration and preservation of early American buildings. On moving to Philadelphia his field of interest changed. After fifteen years of work—mostly on Sunday mornings and with but a couple of summers abroad—he published his *Origins of the Rococo*, the definitive study of French architecture and decoration of the early eighteenth century.

As a scholar, Fiske Kimball was conservative in method, reflecting the somewhat provincial training which was all he could obtain at Harvard during the early years of the century. 'I discovered Wölfflin too late,' he would frequently say. But from this training he derived a tough-minded respect for facts as such. There was no one more determined in searching for documents, no one more meticulous in studying them. These dry virtues were combined with exceptional daring, with devastating critical acumen and with a broad historical grasp. Approaching European art of the eighteenth century as a non-European, he saw how extravagantly its complexities had been compounded by rival nationalistic historians. So he set himself the task of discovering what were the actual currents of artistic influence and setting them forth clearly, however anti-traditional his conclusions might be. Thus his last book scandalized the French by proving how much the Louis XVI was inspired by English models. In his next, a comprehensive survey of French architecture of the whole eighteenth century for the Pelican series, he was preparing to deflate the sometimes exaggerated claims made for the German buildings of his favourite period.

'Fiske Kimball was the truest of friends to younger scholars. He would seek them out and focus the blast of his enthusiasm upon their work. Indeed, the only thing that he would pursue more relentlessly than a city councillor, a work of art, or an ancient document, was some advantage for a young man in whom he had confidence.

Landscape Scholarships in US

A year ago an experimental curriculum in landscape architecture was initiated at the University of Pennsylvania, Philadelphia. A faculty has now been appointed and a graduate curriculum in the subject established under Ian L. McHarg of the Department of Land and City Planning of the School of Fine Arts. Philip Johnson is a visiting critic for this semester, history courses are being given by Lewis Mumford and Dr. Tatum and botany and plant materials taught by Dr. James Fogg.

Several graduate fellowships, graduate assistantships, research assistantships and scholarships are available for the 1956–57 landscape architecture course. They range in value from $3,000 per annum to $500 plus free tuition. They are not restricted to American graduates, but to be eligible applicants must have a bachelor degree or equivalent in architecture or landscape architecture. Closing dates for applications range between December 31 and March 1. Inquiries should be addressed to G. Holmes Perkins, Dean of the School of Fine Arts, University of Pennsylvania, Philadelphia 4, U.S.A.

CORRESPONDENCE

To the Editors,

SIRS,—Can I in defence of the planning movement, comment on a phrase in the book 'Outrage' which says that 'most of what you see has been approved by a planning department.' Unhappily, many of the things that 'Outrage' condemns are outside the control of planning authorities, e.g., street lighting standards; telephone wires; road signs and other similar notices; 'rock gardens' in streets; and even the removal of derelict military establishments seems now to be almost impossible on economic grounds. Even a great deal of the 'metal plate' type of advertising can be done without the express consent of an authority.

Yours, etc.,
P. G. LAWS,
County Planning Officer.
Isle of Ely C.C.,
March.

[The Editors write: *Precisely: the fact that planning machinery is completely by-passed—not even overridden—by many of the worst outrages was one of the reasons for publishing the special number. As was said there, 'what is wanted is not less planning but more,' and this means, among other things, an end of the system whereby* carte blanche *is given to all the other government departments and to anything that has a flower bed in it.*]

To the Editors,

SIRS,—Sir Hugh Casson's inquiry about corner chamfers in your September number brings to mind the painfully disorienting character of such corners to people who are not perfectly familiar with a city; when there is no sun to take one's bearings from, even people with a good 'bump of location' are confused by such lopped-off corners.

Is not the culprit Baron Haussman? When he cut the *grands boulevards* he created so many new corners, many of angles which must have been intolerable to him, he did a wholesale blunting of acute angles, even sometimes of right angles.

Yours, etc.,
WINSLOW AMES.
Farnham, Surrey.

Architects of the offices and flats illustrated on pages 382–387. **Amedeo Luccichenti** was born in 1907 and **Vincenzo Monaco** in 1911, and both qualified at the Scuola Superiore di Architettura of Rome in 1933. They began their joint practice in 1935,

which has included activities in the building industry as well as in the field of architecture. Their office has given hospitality to many foreign architects, both before and since the war.

Architect of the House in Yorkshire. Peter Womersley is 31, was in the Army 1942–1946, and at the Architectural Association School 1947–1952. He has been in private practice from 1953 onwards, and is at present engaged on private housing

of the same type as the Farnley house in the Yorkshire Dales and in the Lowlands of Scotland, and also on mill conversions in Scotland.

Intelligence

Ignazio Gardella of Milan and Luigi Piccinato of Rome are the recipients of the Olivetti prizes for architecture and city planning, which have been awarded for the first time this year. Prizes for historical and critical work were awarded to Edoardo Bettini, Mario Labò and Egle R. Trincanato.

Mr. H. J. G. Griffin, Secretary of the CPRE, and Mr. Gervas Huxley have been appointed members of the National Parks Commission.

The RIBA December exhibition will show architectural methods applied by MOW to the preservation of ancient buildings. The spring exhibition will be of Australian architecture.

ACKNOWLEDGMENTS

The colour blocks on pages 377-8 were made available by courtesy of *The Monthly Bulletin*, 4 Dean's Yard, SW1. That on page 395 is by courtesy of Messrs. Lewitt-Him; and on page 396 is by courtesy of Fleetwood Paint, Ltd.

MARGINALIA, page 352: Italian architects, Oscar Savio. FRONTIS: James Stirling. NEW BRUTALISM, page 359: Pollock & Burri, Spazio; Henderson & Paolozzi, Nigel Henderson; Hunstanton School, Galwey. HOUSE IN YORKSHIRE, pages 363–7: Galwey, Arphot. HOUSE AT LEICESTER, pages 368–371: A. Cracknell. BREWERS' HOUSE STYLES, page 372: Eric de Maré; page 375: 6, T. Edmondson; 7, National Publicity Agency; page 376: 11, 18, Galwey; 17, Toomey, Arphot; page 379: 21, A. E. Parker; 23–5, Design Research Unit; page 380: 22, Robinson & Co.; 23, wall-mirrors, Toomey. WORK BY LUCCICHENTI & MONACO, pages 383–7: Oscar Savio. HORTA, pages 388–392: buildings, Archives Centrales Iconographiques d'Art, Brussels. MISCELLANY, pages 393–402: Norwich Factory, Nairn, Arphot; Lewitt-Him, Cas Oorthuys; Davies & Arnold, Pantlin; Exhibitions, 1, R. B. Fleming & Co.; 2, P. A. Juley & Co.; 3, Brassai; 5, Times; 6, A. C. Cooper; Lettering, 1, 2, 4, Galwey; 4, 8, 12, 13, Toomey; 5, Bath Academy of Art; 7, 14, Priscilla Hastings. CURRENT ARCHITECTURE, pages 403–6: J. R. Pantlin. SKILL, pages 407–420: Interiors, Mallinson, Galwey; Army & Navy, Millar & Harris; Jensen, 1, C. Westwood; 2, Pantlin. Design Review: Glass, 2, G. Gravett; rest, McLeish & Macaulay; wallpapers, COID; Techniques, Sydney W. Newbery.